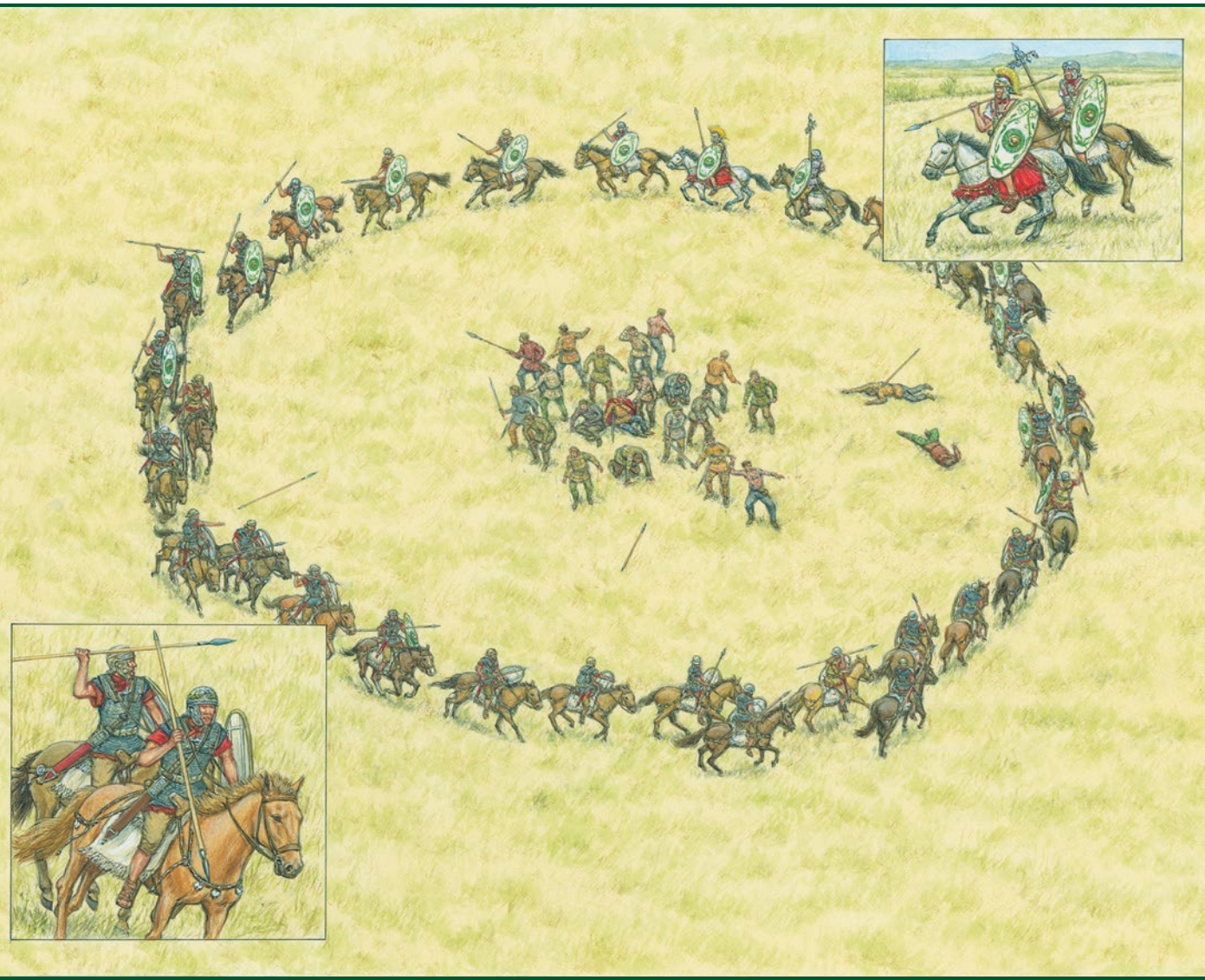
Roman Cavalry Tactics



M.C. BISHOP

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Roman Cavalry Tactics

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Series editors Martin Windrow & Nick Reynolds

CONTENTS

INTRODUCTION 4

THE REPUBLIC (before 27 BC) 9

Strategic deployment ▪ Tactical deployment ▪ Notable actions: The Ticinus, 218 BC – Cannae, 216 BC – Carrhae, 53 BC – Ruspina, 46 BC ▪ Equipment: The javelin

THE EARLY PRINCIPATE (27 BC–AD 117) 21

Strategic deployment ▪ Tactical deployment – Arrian on the *hippika gymnasia*
Notable actions: Crossing the Menai Straits, AD 60 – Gelduba, AD 69 – Rigodulum, AD 70 – Mons Graupius, AD 83 – Retrospective evidence from Arrian's *Alani* campaign, AD 134
Equipment: The four-horned saddle

THE HIGH AND LATE PRINCIPATE (AD 117–192 and 192–284) 42

Strategic deployment ▪ Tactical deployment ▪ Notable actions: Nisibis, AD 217 – Immae & Emesa, AD 272 ▪ Equipment: The *contus*

THE DOMINATE (AD 284–476) 50

Strategic deployment ▪ Tactical deployment ▪ Notable actions: The Milvian Bridge, AD 312 – Mursa, AD 351 – Strasbourg, AD 357 – Hadrianopolis (Adrianople), AD 378 ▪ Equipment: Horse armour

CONCLUSIONS 58

BIBLIOGRAPHY 62

Abbreviations ▪ Ancient sources ▪ Modern sources

INDEX 64

ROMAN CAVALRY TACTICS

INTRODUCTION

> With the infantry line set out, cavalry are placed on the wings in such a manner that all cuirassed and *contus*-armed men should be next to the infantry, while archers or those without body armour are placed further out. For the flanks of infantry must be protected by the stronger cavalry, and the flanks of the enemy overrun and disrupted by those who are faster and unencumbered. (Vegetius, *DRM* 3.16, trans author)

Tombstone from Mainz depicting Romanius, an auxiliary cavalryman of the *Ala Noricorum*, riding down a barbarian foe while brandishing a javelin overarm. The rider's mail armour with caped shoulder-reinforcement, and the long *spatha* sword slung at his right hip, are very evident. Note also (left) his *calo* slave apparently carrying spare javelins. (Photo Heike Fischer / Wikimedia CC BY-SA 4.0)

The modern perception of the Roman army is of an extremely effective infantry force, but this has not always been the case. When the 4th-century AD author Flavius Vegetius Renatus came to compile his analysis of earlier military writings – now known as the *Epitoma Rei Militaris* or *De Re Militari*, and supposedly intended for an Emperor Theodosius (although whether I or II is disputed) – he concentrated on Rome's historical infantry capabilities precisely because cavalry was, in his time, the dominant force and, in his eyes at least, needed no discussion about its improvement. (*DRM* 3.26)

Roman cavalry tactical doctrine was never a single fixed concept; it evolved over time much as other aspects of the Roman army had to, although there were certain recurring characteristics. It always has to be seen in the context of the enemies Rome faced (or had recently faced), since this directly affected the Roman response. It is also important that civil wars were a complicating factor in Roman military development. Just as a range of external foes might be encountered, using a variety of equipment and tactics, there was the ever-present possibility of combat with very similar forces. On a number of occasions – including the Germanic uprising against Varus under Arminius in AD 9, the war against the Numidian Tacfarinas in *c.*AD 17–24, and the rebellion against the Rhineland army by the Batavian leader Civilis in AD 69–71 – Roman forces found themselves fighting their own former auxiliary troops. Such

Detail from a metropolitan sculptor's depiction of provincial auxiliary cavalry of the early 2nd century AD, from the helical frieze on Trajan's Column. (Photo © M.C. Bishop)

opponents were, of course, schooled in the tactics and using the equipment of their former comrades. (Ammianus Marcellinus 16.12.45)

As the structure of the army changed with time, so too did the background and social status of the cavalrymen, as well as the equipment they used and the tactics they employed. The way that Rome deployed its troops around its expanding empire also meant that the strategic employment of cavalry became just as important as how they were used tactically on the battlefield, since policing roles within occupied territory became an important aspect of the army's mission. Here it is important not only to distinguish the difference between the strategic and tactical deployment of cavalry (examples of both of which are discussed in this text), but also to note the difference between the tactical use of cavalry in the field and, at a more granular level, how a *turma* of cavalry was used. We are extremely fortunate when researching the latter to have Arrian's 2nd-century AD description of cavalry *turma* training (see below, 'Arrian on the *hippika gymnasia*'). Nevertheless, the statement by Vegetius which introduces this chapter generally held true for Roman cavalry throughout the millennium of Rome's dominance of the military sphere in Europe, the Near East and North Africa: infantry in the centre, cavalry on the flanks.

The evidence available for the study of Roman cavalry tactics is far from consistent over time. Descriptions of battles by historians are the most obvious starting point, but their value is limited by the often scant attention paid to the operations of cavalry, particularly when there was greater reflected glory to be found in describing the deeds of Roman citizen infantry. However, one such writer is of particular interest: Polybios, a Hellenistic Greek of noble background. He was held hostage by Rome, and became particularly familiar with its military system. Ultimately, he ended up as a friend of and advisor to the Roman commander Scipio Aemilianus, and accompanied him in the field. Polybios wrote an account (*Historiai*) of Rome's wars between 264 and 146 BC, drawing upon original documents, historical accounts and eye-witness descriptions of events. Additionally, he was himself a keen horseman, and was even at one point appointed as a cavalry commander (*hipparchos*).

Part of a copper-alloy statue, depicting a cavalryman's *caliga* with an interlaced 'prick' spur. The boot is secured with a single lace passed through the terminals of the peripheral strapping. (Photo Carole Raddato / Wikimedia CC BY-SA 2.0)

The problem with some historical accounts can best be described as a 'penchant for the unusual'. Mentions of details or even accounts of events that might seem out of the ordinary can all too easily be misinterpreted through ignorance of contemporary norms. An example might be Caesar's noting that Germanic (Suebian) cavalry were in the habit of dismounting to fight and leaving their horses unattended (Caesar, *Bell. Gall.* 4.12). Although Roman cavalrymen also dismounted to fight in the Republican period (see below), later readers might either take this passage as implying that Caesar recorded the practice because of the novelty of leaving cavalry mounts unattended, or they might recognise it, conversely, as what dismounted cavalrymen normally did (McCall 2002: 71–2). In later historical periods, dragoons and eventually mounted infantry always allotted a certain number of men as horse-holders when deploying dismounted, and although Roman sources are silent on the subject, it might be assumed from Caesar's comment about the Suebians that the Romans did the same.

Unlike Polybios or Caesar, most Roman historians whose work survives were not eye-witnesses to the events they described, but rather drew upon the works of earlier writers (who may themselves have done the same). The same applies even to the more specialised military manuals like the *De Re Militaris* compiled by Vegetius, as well as the Byzantine *Strategikon* attributed to the 6th-century Emperor Maurikios. This has led to a wide and often unquantifiable range of reliability in the texts that have come down to us. However, as Wellesley (1972: 14) pointed out in the context of the battle of Rigodulum (AD 70), the use by Tacitus of a reliable source (probably in that case the Elder Pliny, himself a cavalry commander during the Early Principate) might still preserve an account which can be traced convincingly on the present-day terrain.

Beyond general historical accounts there are more specific texts, such as the 2nd-century descriptions by L. Flavius Arrianus (Arrian) of Roman cavalry exercises, and of his marching and battle orders, both of which retrospectively shed a light on the operation of Roman cavalry in the Early Principate (the reigns from Augustus to Trajan inclusive). Sadly, the Elder Pliny's treatise on throwing javelins from horseback is known about, but lost. What does

fortuitously survive is a series of eye-witness descriptions of training, probably in the words of the Emperor Hadrian himself (r. AD 117–138), in the form of a large inscription at Lambaesis (Algeria) recording his speech after reviewing the army in North Africa. Occasionally, sub-literary evidence – usually in the form of excavated papyri, writing tablets, or *ostraca* (inscribed pottery shards) – are found to provide particular insights, such as the way in which native British horsemen fought; what equipment Roman cavalrymen might lose and need replacing; and the use of cavalry couriers to transport luxuries (see below, *passim*).

Metropolitan sculptor's depiction of armoured steppe cavalry (Sarmatians or Iazyges) of the early 2nd century AD, from a cast of the frieze on Trajan's Column. Note at top the mounted archer delivering a 'Parthian shot'. (Photo © M.C. Bishop)

Carved depictions of cavalrymen in action also have a value, although such representations could be highly stylised and often heavily influenced by classical artistic traditions and tastes. From the Aemilius Paullus monument at Delphi (Greece; *c.*167 BC) right down to individual tombstones of cavalrymen throughout the Principate, such carvings survive. A 1st-century AD panel from a larger relief found at Arlon (Belgium), showing auxiliary cavalry in similar poses to those shown on contemporary tombstones, nicely makes the point that such images could be formulaic, stylised and of questionable value in understanding cavalry tactics, even when their depictions of armour and harness details prove valuable by comparison with surviving artefacts. Something of the contemporary perception (as distinct from the reality) of the tactical use of cavalry can be gleaned from such iconographic sources, but these should never be taken as reliable depictions of actual events, but rather as impressions of how they were viewed at the time.

This is particularly the case with depictions of Roman cavalry in action on the helical frieze of Trajan's Column in Rome (AD 113), a monument which invariably shows the Roman army in a favourable light. In one panel (Scene XXXVII), Roman auxiliary cavalry pursue armoured Sarmatian cavalry who flee them (one demonstrating the famed 'Parthian shot' over the hindquarters of his horse). For such depictions to be of any use in the study of cavalry tactics, we would have to have confidence that the metropolitan artists producing them possessed some insight into what they were showing. There is little indication that this was so.

The reconstructed horse-schooling arena (*gyrus*) at The Lunt Roman Fort, Baginton, Warwickshire. (Universal History Archive / via Getty Images/ 525491513)

In addition to the iconography, archaeology has yielded surviving elements of horse harness and the equipment of cavalrymen, and they too can help our understanding of the capabilities and limitations of cavalry. Unusually, at least one battlefield (Gelduba; AD 69 – see below) may be open to at least partial interpretation from the way in which dead horses were buried there.

As Roman cavalry tactics developed, one component remained consistent: the horse. As McCall notes (2002:76), even before the advent of the four-horned saddle, Republican cavalry enjoyed advantages of mobility, speed and height over opponents on foot. The horse itself was an intimidating presence which could, in extreme situations, join in the fighting (since stallions were often used by Roman cavalry, to judge from tombstone depictions, their instincts for fighting with hooves and teeth were innate). While Roman horses were small by modern standards, they were not ponies. The horse skeletons found at Krefeld-Gellep (Germany) on the site of the battle of Gelduba show that sizes ranged between 13.2 and 15.1 hands, while skeletons from other sites measure around 14 hands (Hyland 1990: 68).

Detail of tombstone from Cologne of Lucius Romanus of the *Ala Afrorum*, depicted training his horse using long reins. Note the harness and saddle detail, including the fringed saddle blanket, and particularly the oval shield slung from the horns on the far side. (Photo © M.C. Bishop)

Evidence for the breeding, schooling and training of cavalry horses is sparse. Horses, like men, underwent a *probatio* (selection process) upon joining the army, and a papyrus survives from Dura-Europos (Syria) listing and describing horses selected for *Cohors XX Palmyrenorum*. A circular timber arena with a diameter of 32m (35 yards) was excavated in the Roman fort at The Lunt, Baginton (Britain), and has been interpreted as a *gyrus* used in the initial training of cavalry horses. Long-reining is depicted on some cavalry tombstones, partly as a form of training for the animal, but also as a way of providing displays of skill (Bishop 2019).

THE REPUBLIC (before 27 BC)

> The consul was equally at a loss; he knew that the king had left his winter quarters, although ignorant of the region to which he had marched. He too sent out cavalry to scout. These two cavalry forces, coming from different directions, after they had wandered long and aimlessly over the roads in the land of the Dassaretii, finally met on the same highway.
>
> Neither was unaware, since they heard the sound of men and horses from far off, that the enemy was approaching. So, before they came in sight of one another, they had prepared horses and arms for battle, nor was there any delay in charging as soon as the enemy came in sight. Not unequal, as it chanced, in either numbers or courage, since both consisted of picked men, they fought on equal terms for some hours. The weariness of men and horses ended the struggle without a decision in favour of either party. Of the Macedonians, forty cavalrymen fell; of the Romans, thirty-five. (Livy 31.33.7–11 trans Sage)

Under the Republic, wealth determined the role of the individual in the Roman military system. The wealthiest men (the senatorial class) decided when wars would be fought and, if needed, provided them. The poorest supplied the infantry (but still ranked by relative wealth), while the cavalry (*equites*) came from those who could afford to provide, equip and maintain their own mounts. Effectively Rome's middle class of the period, the *equites* (older books sometimes, rather awkwardly, refer to this equestrian class as 'knights') would come to form a command and administrative backbone for both the army and the empire, but in the Republican period they were the citizen cavalry. Thus the Roman social pyramid of hundreds of senators, thousands of *equites*, and hundreds of thousands of humbler men formed both the Roman social-class and military systems.

Republican legionary (left) and cavalryman at the battle of Pydna (168 BC), depicted on the Aemilius Paullus Monument at Delphi. Their belted mail shirts are clearly visible, as well as drilled sockets in their right hips to which metal swords were originally attached. (Photo © J.C.N. Coulston)

None of these were professionals at the beginning; called up when needed by a draft mechanism termed the *dilectus*, it was an amateur army with amateur commanders. Rome was not unique in this, since many societies in the ancient world employed a 'feudal' system to raise armies when circumstances required. However, the intensity and frequency of Rome's wars around the Mediterranean culminated during the 1st century BC in a series of devastating civil wars between commanders vying for dominance in both the political and military spheres. This meant that soldiers effectively spent

A Republican cavalryman as shown (right) on the Altar of Domitius Ahenobarbus, dated to the last quarter of the 2nd century BC. He is depicted wearing a Boeotian helmet, but lacks his shield and spear, and appears as if about to mount his horse. (Photo Jastrow / Wikimedia/ public domain)

A relief from the Lacus Curtius in the Forum Romanum; although probably an Early Principate copy, it seems to recreate a Republican original showing a contemporary cavalryman. Note the crested helmet, *hasta* spear, circular shield and the *pteryges* protective straps. (Photo © M.C. Bishop)

most of their time in the field rather than at home doing their necessary 'day jobs', and this was just one of many pressures that led to the demise of the Republic and the rise of the Principate.

Roman cavalry, whether composed of citizens or allies (the latter usually outnumbering the former), were organised into *alae* ('wings'), and an argument has been made that there was little difference, in equipment or *modus operandi*, between citizen and allied cavalry (McCall 2002: 54). The term *ala* derived from the fact that cavalry were generally positioned on the flanks of the legions (although each legion then contained 300 cavalrymen). This was indicative of the supporting role they played, whether on the march or in set-piece battles. It was the job of the cavalry to protect the front, rear and flanks of a marching army. Once it was encamped, they formed a dynamic screen; on the battlefield, they sometimes provided a fairly crude shock force, but more often skirmished, or pursued a fleeing enemy.

It is notable that cavalry seem originally to have been organised on the basis of 'centuries' and that the *ala* as a cavalry regiment did not exist until the very end of the Republican period, possibly even being an Augustan invention. It was pre-dated by the smaller tactical subunit of a *decuria* of ten men, with three *decuriae* making up a *turma* of 30 men, which is attested in Caesarian accounts and even epigraphically. Each *decuria* was commanded by a *decurio*, who chose a deputy (*optio*), and the first *decurio* selected for each *turma* then commanded the unit (Polybios 6.25.1–2). This explains the seemingly anomalous fact that, while a *centuria* of 80 infantry was commanded by a *centurio*, the commander of a *turma* of only 30 cavalry was a *decurio*. Contemporary Roman explanations for the etymology of the word *turma* are doubtless both anachronistic and spurious, but the appearance of the word in texts, to describe a subunit which would later feature heavily in the organisation of the army of the Principate, is indisputable.

For most of the Republican period Roman cavalry seem to have been equipped in much the same way as their Hellenistic counterparts, with the exception of body armour. Several cavalrymen shown on the Aemilius Paullus Monument are probably Roman (e.g. Taylor 2016: 562, Figure 1, 1–2); they wear mail shirts, and the carvings

'Celtic' riders on a copy of the 2nd- or 1st-century BC 'Gundestrup cauldron'. Although this magnificent silver bowl was found in Denmark, the decorative reliefs adorning it are thought to be the work of central European craftsmen showing Gallic and Thracian influences. These riders wearing crested helmets are depicted using four-horned saddles. (Photo Chatsam / Wikimedia CC BY-SA 3.0)

have sockets for the attachment of separate metal swords on their right hips. A cavalryman depicted on the so-called Altar of Domitius Ahenobarbus in Rome, dated to the 1st century BC, wears a mail shirt over a tunic, with a cloak over his shoulders; he has a crested Boeotian helmet, and a sword on his left hip, but no shield is shown. Another relevant relief, from the Lacus Curtius in the Forum Romanum, is probably an early Principate copy of a Republican original. It depicts a Roman cavalryman (sometimes identified with the semi-mythical 4th-century BC figure of Marcus Curtius) with a crested helmet of indeterminate type, a cloak and a circular shield (*parma*), and wielding a spear. Republican cavalry also used a Hellenistic-style pad saddle which, since it lacked stirrups or any other means of providing a firm seat, severely limited what cavalry could in fact do (beyond ride to and from the scene of battle).

Later, both Totenmahl and Reiter tombstones of cavalrymen (i.e. of formats showing respectively the deceased feasting after death, and on horseback in battle) sometimes show a *calo* waiting upon his master, often holding spare javelins or schooling the horse. *Calones* were slaves who acted as grooms for cavalry horses and, it is thought, may have lived in the loft space of stable-barracks above their charges. The names of some are known, such as Victor, the freed servant of Numerianus, a trooper in the *Ala I Asturum* from Spain, based at Benwell on Hadrian's Wall (*RIB* 1064). T. Aurelius Sanctinus, a *duplicarius* in the *Equites singulares Augusti,* set up a poetic epitaph in Rome to Miles (literally, 'Soldier boy'), a 19-year-old slave from the Marsaci tribe near the mouth of the Rhine (Spiedel 1985). Some years later, once he had risen to the rank of *decurio*, Sanctinus did the same for another slave, this time from Pontus on the Black Sea, whose name is lost.

STRATEGIC DEPLOYMENT

In the Republican period Rome did not habitually maintain an army in the field. Consular armies were formed in the spring, campaigned in the summer, and then stood down in the autumn so that their part-time soldiers could return to civilian life and, in most cases, to tending their small subsistence farms. Cavalry were formed from those Romans with the wealth to provide a horse and its equipment, and was supplemented by cavalry from allied nations within the Italian peninsula.

This minimalist approach to military activity met its first serious challenge with the Punic Wars against the Carthaginian empire (First, 264–241 BC; Second, and decisive, 218–201 BC; and Third, punitive, 149–146 BC). This series of usually protracted conflicts ultimately changed the way the Roman army – and society more generally – operated. Campaigns far from home, notably in the Iberian peninsula in the first instance, meant that armies were

often required to remain and overwinter in their theatre of operations. This led to the development of large fortified bases, like those in the vicinity of Numantia (Spain), and was a precursor to the positioning of units in the provinces during the Early Principate. Accommodation that may have belonged to cavalry has been identified in some of the known Republican camps.

TACTICAL DEPLOYMENT

At first, there seems to have been little subtlety in the tactical use of cavalry by the Romans, who largely eschewed the use of the charge to engage an enemy force, even to the point of fighting dismounted on occasion. Cavalry could achieve success particularly against disordered infantry, as happened in 207 BC prior to the battle of the Metaurus in Apulia (Italy), when some of Hannibal's Carthaginian infantry were caught in disorder while emerging from camp. Cato later tried something similar in 195 BC against Spanish infantry, but on that occasion the cavalry were evidently not quick enough and allowed the infantry time to form up, so were driven off.

One instance where a charge into organised infantry was used occurred in 222 BC under M. Claudius Marcellus at Clastidium (Italy). A full-on frontal assault was launched against a Gallic battle line, was initially repulsed, but then prevailed when it attacked the flanks and rear (Polybios 2.34.6–9). Another example may have happened under M. Popilius, against the infantry of the Statielli at Carystum in Liguria (Italy) in 173 BC, when Roman cavalry successfully broke through the enemy line and caused the infantry to turn tail and flee (Livy 27.41.9–42.8). However, McCall (2002: 56) suspected that in this instance the cavalry had infantry support.

BATTLE OF THE TICINUS; ITALY, 218 BC

At this battle in the Po Valley of northern Italy, early in the Second Punic War, the consul Publius Scipio used a combination of light infantry *velites* drawn from his legions interspersed among his allied Gallic cavalry, to oppose a probing Carthaginian cavalry force (actually composed of Gallic, Iberian and, on the flanks, light Numidian horsemen.) He took the precaution of reinforcing his first mixed battle line with a second, composed of Italian and Roman cavalry.

Although it was nominally a cavalry battle, most of the troops actually dismounted to fight. Routed by the Numidians' hooking attacks, the Roman *velites* quickly fell back, leaving the heavy Cathaginian units and the Roman cavalry to slog it out. Subsequently the Numidians also outflanked the second line, to attack the Romans from the rear. Publius Scipio himself was wounded, but was rescued (reputedly by his 16-year-old son, the future Scipio Africanus). His dismounted cavalry force held together well enough to allow them to retreat to the Roman camp, protecting their commander.

Inset 1: Dismounted combat

A dismounted Iberian horseman is shown fighting a Roman light-infantry *veles*. The find from which we copy the Iberian's impressive copper-alloy helmet suggests a 'gutter-mounted' fore-and-aft crest, and he wears a circular copper-alloy breastplate with X-straps. He distracts his opponent by punching him with his wooden *caetra* buckler, here with its long suspension strap wrapped around his forearm, while seeking the chance to slash him with the equally characteristic Iberian single-edged *falcata* sword.The Roman *veles* wears a traditional wolfskin over his tall copper-alloy Montefortino helmet; javelins were fitted with thong throwing-loops for greater range, and the sword at his right hip is a long Greek *xyphos* type.

Inset 2: Mounted combat

In the final mêlée, a Carthaginian-allied Gallic horseman reaches the Roman second line and clashes with a citizen cavalryman. Gallic models of both helmets and 'caped' mail armour were later widely copied and adapted by the Romans, as was the efficient four-horned saddle. Examples of long swords and chain belts from the Gallic Late La Tène culture have been recovered, as have much rarer finds of chequered clothing fabric preserved in northern European bogs. The shield shape with a rib and 'barleycorn' boss accords with the evidence, although its painted pattern here is imaginary. Under a very dark cloak (mentioned in some sources), this warrior's Roman opponent also wears mail, but he presents a contrasting Hellenised appearance, complete with a Boeotian helmet. Spears and javelins were common to both sides, as were swords long enough for engaging both mounted and dismounted enemies.

Riding bareback in the left background is one of the Carthaginians' Numidian allies, whose lack of harness and very light equipment did not prevent them from turning the Roman battle lines on both flanks. Although the only known clear carved image of these warriors dates from 300 years later (see page 14), there is no reason to suppose that their appearance would have changed markedly over time.

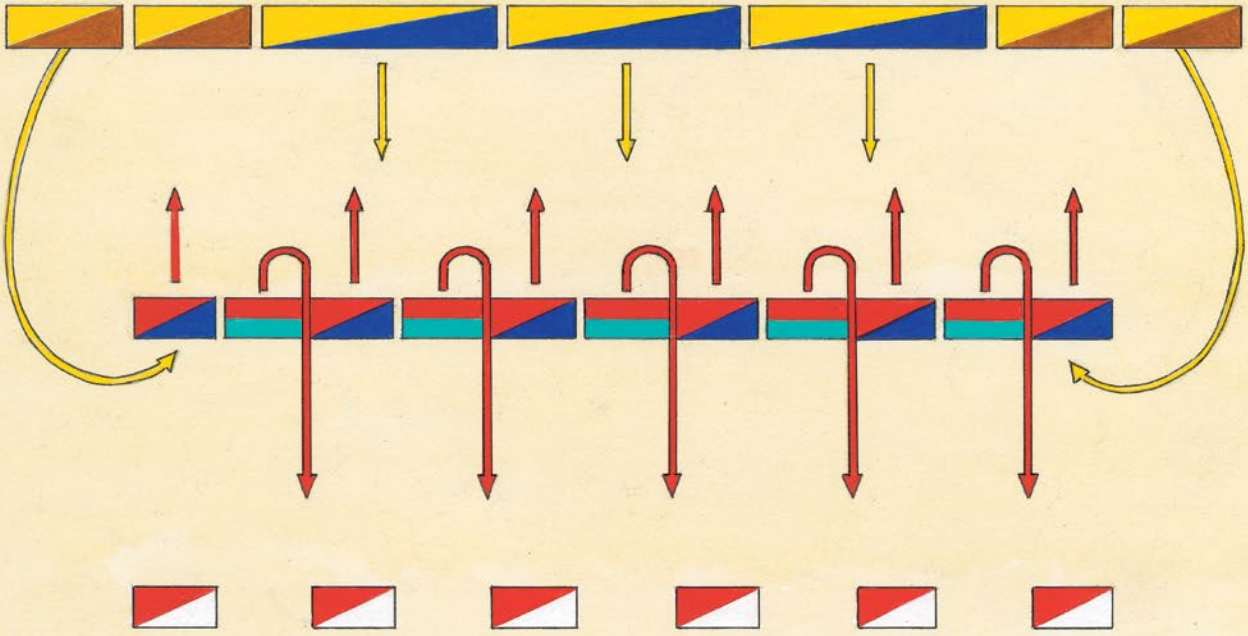
Carthiginian-allied Gallic & Iberian cavalry

Carthiginian-allied Numidian light cavalry

Roman-allied Gallic cavalry

Roman *velites* light infantry

Roman and Italian cavalry



Detail of a metropolitan sculptor's impression of Numidian light cavalry of the early 2nd century AD, from a cast of the Trajan's Column frieze. In Carthaginian service, such agile mounted warriors had clashed successfully with Roman troops some 300 years before Trajan's day, as at the battle of the Ticinus in 218 BC. (Photo © M.C. Bishop)

It was more normal practice for cavalry to operate in a supporting role. During the battle of Telamon (Italy) in 225 BC, the Roman cavalry first took on the Gallic cavalry while the infantry forces faced each other, before launching a timely attack on the flank of the Gallic infantry which then contributed to Roman victory (Polybios 2.28.9–30.9). Defeating enemy cavalry before attacking their infantry was also a feature of the climactic battle of the Second Punic War, Scipio Africanus's victory at Zama (Tunisia) in 202 BC, where both Roman and allied cavalry defeated and then pursued their opponents, before returning to assist the infantry line by attacking the Carthaginian rear (Polybios 15.12.5–14.9). In 200 BC, L. Furius used his infantry reserves to force his Gallic opponents to overextend their line, and then had his citizen and allied cavalry each attack one of the flanks of the Gauls with devastating effect.

This was a very different mode of deployment to that which is later described by writers such as Arrian, and was probably a result of the reliance on a Macedonian-style pad saddle. Weaponry evolved before the harness did, however, with the *gladius Hispaniensis* being successfully adopted by both Roman legionary infantry and the cavalry. Since it was a longer weapon than the later *gladius* of the Principate, it was well suited to use on horseback, whether against other horsemen or infantry (Bishop 2016: 6).

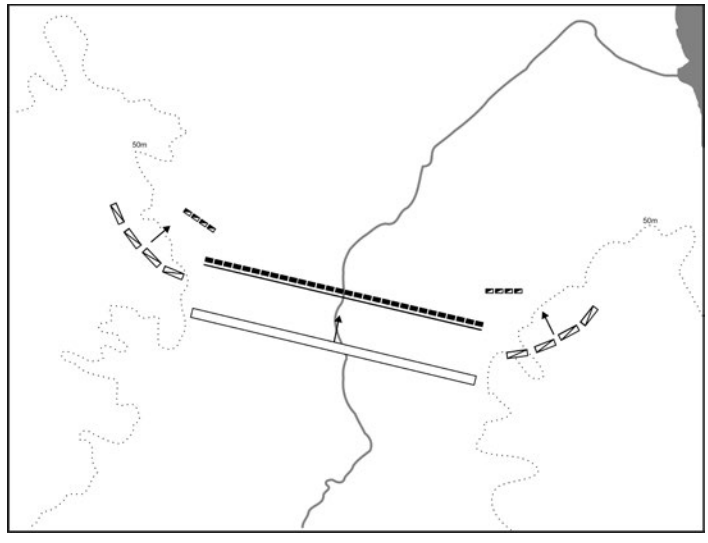
When *equites* came upon light infantry skirmishing in open order, the cavalry always had the advantage. One counter to this was to mix cavalry with light infantry. Collaboration with infantry could even extend to giving them a lift into battle. Livy (26.4.4–7) described how each cavalryman transported one *veles* into action near Capua in 211 BC, dropping them off when they had reached a suitable skirmishing position.

A guiding principle of Republican Roman cavalry actions seems to have been, so far as was possible, to ride to the desired point of contact and then engage in close action. This might be performed mounted or dismounted, but a dynamic mêlée or skirmishing action was seldom sought, and enemies who did not cooperate could prove inconvenient. McCall (2002: 76–7) was in little doubt that, by and large, this approach worked, and attributed it to a series of notions underpinning Roman morale, most notably *virtus*. This might be translated as a mixture of manliness and courage, but the fact that the modern word 'virtue' is derived from it hints that there was far more than just *machismo* at the root of the concept.

According to Petitjean (2022: 48–9), there was an interesting feature of the battle of Nepheris in 147 BC during the Third Punic War which was to have later ramifications – if Appian (*Punica* 103) is to be believed. Scipio Aemilianus ordered 300 cavalry deployed in two lines, which attacked alternately, casting their javelins and then withdrawing. To allow each line (presumably of five *turmae*) to retreat through its fellows, they must have been operating in file as *turmae*, effectively performing what soldiers of a later age would term the 'caracole'. In doing so, they foreshadowed some

of what Arrian later described in his account of cavalry training under the Principate (*Technē taktikē* / *Ars tactica*, *c.*AD 136–137). When Roman cavalry took on opposing cavalry they either halted and engaged their opponents mounted, or dismounted to do so, with little of the sort of fancy manoeuvring favoured by Hellenistic cavalry, as Philip V of Macedon found out:

> The Romans, on the other hand – their battle-line was a little more than half a mile away – sent out skirmishers and about two squadrons of cavalry, so that the infantry and cavalry might equal the enemy in number also. The king's forces assumed that the type of fighting would be that to which they were accustomed: that the cavalry, alternately advancing and retreating, would now discharge their weapons and now retire, so that the swift movements of the Illyrians [from the western Balkans] would be useful for sallies and sudden charges, and the Cretans would shower arrows upon the enemy advancing in disorder. The Roman attack, no more vigorous than stubborn, prevented the carrying out of this plan; for just as if they were in regular line of battle, both the skirmishers, after hurling their *hastae*, came to a hand-to-hand combat with their *gladii*, and the cavalry, as soon as they had charged the enemy, [stopped] their horses [and] either fought from horseback or leaped from their saddles and fought mingled with the footmen. So neither [could] the king's cavalry, unused to a stationary battle, match the Romans, nor his infantry, running to and fro and almost unprotected by armour, against the light-armed Romans equipped with *parma* and *gladius* and prepared alike for defence or offence. (Livy 31.35.2–6, trans Sage, amended by author)



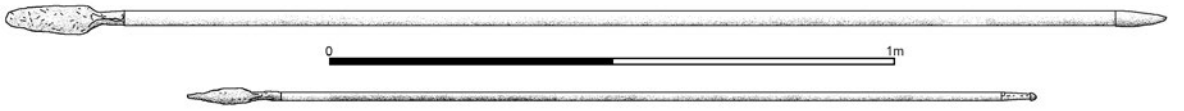
At the battle of Ruspina in 46 BC, Caesar's army (upper line) was outflanked by Labienus's cavalry and ultimately surrounded. Both generals deployed their cavalry on the flanks, but Labienus had packed his in such tight formations that Caesar's scouts under-estimated their strength. (Sketch map © M.C. Bishop)

Romans could be skilled horsemen, but they saw combat through a very particular lens: it was best done on foot. An actual charge into an opposing cavalry force seems to have had one of two outcomes: either the enemy turned tail and fled, or the Romans came to a halt before they actually made contact with a more resilient force. Both sides were well aware of the likely resulting mayhem if horses actually collided at speed (McCall 2002: 65–6). Hand-to-hand fighting was a series of individual combats, with the forces intermingled after the ranks were opened up.

NOTABLE ACTIONS

The Ticinus, 218 BC

The battle of the Ticinus in northern Italy, during the first phase of the Second Punic War, saw an advance force of Roman cavalry and light infantry led by Publius Scipio encountering Gallic and Iberian (Spanish) cavalry



Comparison between the *hasta* thrusting spear, with a shaft diameter of 25mm (1 in) and a notional length of 2m (6 ft 6 ins), and the *lancea* javelin with a 15mm-thick shaft and a notional length of 1.5m (4 ft 11 inches). This is copied from components found in the Corbridge Hoard in northern Britain, dated to the first quarter of the 2nd century AD, and iconography certainly seems to show Roman cavalry using either of these weapons. Despite its primary purpose of thrusting or stabbing, Livy does mention the *hasta* being thrown by skirmishers during the Macedonian Wars of the 3rd–2nd centuries BC. (Drawing © M.C. Bishop)

in Carthaginian service supported by Numidian light horse (see Plate A). Roman-allied Gallic cavalry and *velites* light infantry formed an intermixed first line, with Roman and Italian cavalry in a second line behind them. The *velites* were forced to retreat to the second Roman line 'without having cast a single javelin', and the main force of Carthaginian cavalry engaged both the first and second lines of Roman-allied and Roman cavalry, who were successively taken in both flanks by the Numidians. Scipio himself was wounded, although his dismounted cavalry made an orderly retreat. Here again, much of the cavalry combat was actually fought dismounted by the Romans:

> Then followed a cavalry fight of which the issue was for a time in doubt; but by and by the horses became excited by the presence of the foot-soldiers who were mingled with them, and many riders lost their seats or dismounted on seeing their fellows in distress, and the battle was now fought chiefly on foot; until the Numidians, who were posted on the flanks, rode round in a little circuit and showed themselves in the rear. (Livy 21.46.6 trans Foster)

Cannae, 216 BC

The battle of Cannae in Apulia, south-east Italy, was a famous and sorely felt defeat for the Roman army of the Republic. On that occasion a total of 6,000 Roman cavalry were recorded as present, probably between 1,200 and 2,400 of these being citizens and the balance made up of allied horsemen. The Romans deployed their citizen cavalry on the right wing of their army and the allies on their left. The numerical superiority of Hannibal's multi-national cavalry meant that both the citizens, facing Gauls and Iberians, and the allies, opposed by Numidians, were outnumbered. The citizen cavalry were restricted by the legions drawn up immediately to their left, and by the river Ofanto to their right; again, they dismounted for the fight:

> When the Spanish and Celtic horse on the [Carthaginian] left wing came into collision with the Roman cavalry, the struggle that ensued was truly barbaric; for there were none of the normal wheeling evolutions, but having once met they dismounted and fought man to man. The Carthaginians finally got the upper hand, [and] killed most of [their opponents] in the mêlée, all the Romans fighting with desperate bravery; [the Cathaginians then] began to drive the rest along the river, cutting them down mercilessly, and it was now that the heavy infantry on each side took the place of the light-armed troops and met. (Polybios 115, trans Paton)

The allied cavalry did not fare as badly as the citizens, but were effectively neutralised by the Numidians. A contributory factor in the comprehensive defeat of the consular army was that both the Roman and allied cavalry contingents were denied the initiative by being restricted:

The Numidians meanwhile on the [Carthaginian] right wing, attacking the cavalry opposite them on the Roman left, neither gained any great advantage nor suffered any serious loss owing to their peculiar mode of fighting, but they kept the [Roman] enemy's cavalry out of [the main battle] by drawing them off and attacking them from all sides at once. (Polybios 3.116, trans Paton)

Detail from a battle frieze found at Arlon, Belgium, showing three cavalrymen in action. Although it usually attracts attention as evidence that troopers sometimes wore the shoulder plates of the legionary *lorica segmentata* over their mail shirts, it also shows spears or javelins being stabbed downwards with an overarm grip. (Photo FrDr / Wikimedia CC BY-SA 4.0)

Carrhae, 53 BC

A century after Rome's destruction of Carthage in the Third Punic War (146 BC), a Roman army suffered another shockingly costly defeat at the hands of 'barbarian' light cavalry. The governor of Syria, M. Licinius Crassus, enjoyed unparalleled wealth but – despite his defeat of Spartacus's slave rebellion in 71 BC – not the military prestige of his fellow *triumvirs* Caesar and Pompey. Seeking to enhance his reputation, he led an army against the Parthians by an unwisely direct route, and refused the offer of 10,000 heavy armoured cavalry from the allied king of Armenia. In 53 BC, at Carrhae in modern southern Turkey, his Gallic cavalry proved no match for the Parthian horse- archers. Both their tactics, and their endurance in battle due to organised resupply, were of particular note:

> But the Parthians now stood at long intervals from one another and began to shoot their arrows from all sides at once, not with any accurate aim (for the dense formation of the Romans would not suffer an archer to miss even if he wished it), but making vigorous and powerful shots from bows which were large and mighty and curved so as to discharge their missiles with great force. At once, then, the plight of the Romans was a grievous one; for if they kept their ranks, they were wounded in great numbers, and if they tried to come to close quarters with the enemy, they were just as far from effecting anything and suffered just as much. For the Parthians shot as they fled, and, next to the Scythians, they do this most effectively; and it is a very clever thing to seek safety while still fighting, and to take away the shame of flight…
>
> ...Now as long as they had hopes that the enemy would exhaust their missiles and desist from battle or fight at close quarters, the Romans held out; but when they perceived that many camels laden with arrows were at hand, from which the Parthians who first encircled them took a fresh supply, then Crassus, seeing no end to this, began to lose heart. (Plutarch, *Parallel Lives: Crassus* 24.5–6 & 25.1, trans Perrin)

The Romans usually learned from their defeats, and Carrhae was no exception. As a result, they too began to adopt horse-archers, who would be a

regular feature of Principate armies, especially (but by no means exclusively) in the East. Nevertheless, Gallic, Iberian, Thracian and other European cavalry also continued to find favour with the Romans, and ultimately came to dominate Early Principate cavalry.

Ruspina, 46 BC

Julius Caesar was and remains a divisive figure; some admire his ability to get himself out of scrapes, while others note that he should perhaps never have got into them in the first place. There is no denying his success on the battlefield, however, whether against Gallic forces during his command in Gallia Transalpina, or against rival Roman forces during the civil war of 49–45 BC. One of his close calls was the battle of Ruspina, fought in North Africa during the internecine campaigns that continued after Pompey's death in 48 BC.

Caesar's opponent was now Pompey's former cavalry commander Titus Labienus, who had earlier distinguished himself serving under Caesar in Gaul, and knew him well. On this occasion Labienus had deployed his cavalry in a compressed formation which led Caesar's scouts to think they were infantry. Labienus then deployed both his cavalry and light infantry on the flanks, routing Caesar's cavalry and enveloping his battle line. His failure fully to exploit his advantage allowed Caesar to retreat from what was technically a defeat.

> ... Caesar's cavalry found that their horses, worn out with the effects of recent sea-sickness, thirst, and the fatigue and wounds sustained in their unequal contest, were now more reluctant to keep doggedly on the move in pursuit of the enemy. (Caesar, *African War* 18, trans Way)

EQUIPMENT: The javelin

This simplest of weapons (known by many names, including *iaculum*, *missilis*, and *lancea*) was nevertheless at the heart of the Roman cavalry's

B

THE *CANTABRICUS* MANOEUVRE; BRITAIN, AD 60

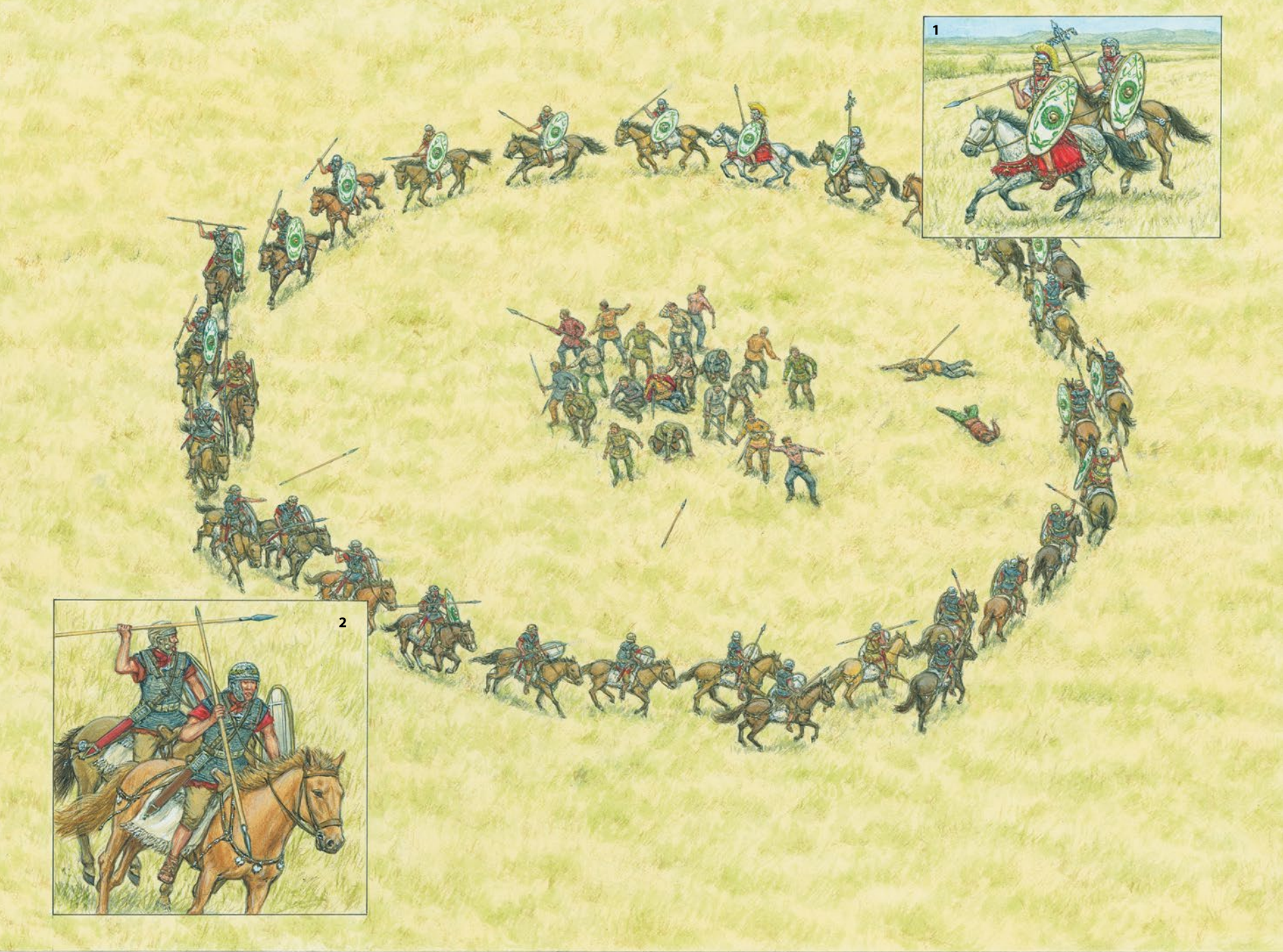
The 'Cantabrian circle' or 'gallop' was a versatile *turma*-level formation described by Arrian and mentioned by Hadrian; it employed constantly orbiting horsemen throwing missile weapons at opponents in turn. Arrian described it in use by two adjacent opposing *turmae*, both circling clockwise, so with their shielded left side facing the enemy, and throwing missiles outwards. Although we have no direct literary evidence for the adaptation illustrated here, a *turma* could equally well have circled anti-clockwise, with shields inwards towards a surrounded foe. This would have been a logical development, well-suited to one of the cavalry's primary tasks under the Early Principate: the pursuit and destruction of fleeing enemies. For this reason we imagine it here being employed during the crushing of Boudica's British revolt.

Inset 1: *Decurio* and *signifer*

The *turma* commander (foreground) shows signs of wealth: a silvered and gilt helmet, with the yellow plume which Arrian associates with the cavalry; copper-alloy scale armour with alternate scales tinned or silvered; and a fine grey horse with expensive harness decorations, while his troop standard-bearer has tinned or silvered gear. The sparse and contradictory evidence for the colours of Roman military tunics is still the subject of lively scholarly debate, but there are various period mentions of officers wearing white. The exact significance of the details of *signa* are equally debatable; the source we follow here shows a standard with two 'ivy-leaf' pendants from each end of the crossbar.

Inset 2: *Equites*

These troopers in battle hold both their reins and shield-grips in their left hand, and a spear in the right. The *spatha* sword was worn on the right hip by the rank-and-file and on the left by officers. It is suggested that body armour varied between mail and scale even within subunits, and the same would logically be true of variations within broad types of helmet, such as the Weyler type (foreground), of which the finds are similar but not identical. Despite the popular assumption that common soldiers wore red tunics in battle, almost the only evidence for this is a passage in Isidore of Seville's 7th-century *Origines* (XIX, xii, 10) – although occasionally he is believed to have drawn upon much older sources. For this book we have chosen to show some tunics as red, but fading through a range of red-brown shades.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Roman cavalryman depicted on one of two almost identical *metopes* from the Adamclisi Tropaeum Traiani, early 2nd century AD. The shield is held with the left hand and the spear at the 'trail', held in the right hand with an underarm grip. Note that the mail shirt seems to be long enough to cover the rear saddle-horns. (Photo Cristian Chirita / Wikimedia CC BY-SA 3.0)

operations during the Republic and most of the Principate. Indeed, it was so crucial that the Elder Pliny, during the period when he commanded a cavalry *ala* on the German frontier, saw fit to write a short manual *On Casting the Javelin from on Horseback*. Sadly, this tract itself is lost, but its title survives in letters of his nephew, the Younger Pliny. There were clearly strong opinions on precisely how a javelin should be thrown; the Emperor Hadrian would later mention the skilful throwing of javelins several times in his review of the troops based in North Africa (Speidel 2006). As Ardant du Picq wryly remarked:

> It appears, according to Xenophon, that it was not easy to throw the dart [sic] from horseback. He constantly recommends obtaining as many men as possible who know how to throw the dart. He recommends leaning well back to avoid falling from the horse in the charge. In reading Xenophon it is evident that there was much falling from the horse. (Ardant du Picq 1921: 203–204)

The javelin comprised a wooden shaft, with a leaf-shaped ferrous head attached (usually, but not always, by means of a nailed socket), and with a small fungiform ferrule capping the butt end and serving to balance the weapon. Depictions of infantry *lanciarii* on tombstones from Apamea (Syria) with bundles of javelins suggest that the weapon was little more than shoulder height when grounded, so about 1.5m (4 ft 11 ins) in length. This would accord with the representation of such a bundle on the tombstone from Neuss (Germany) of Oclatius of the *Ala Afrorum*. To ensure both strength and flexibility, the shaft would have been trimmed from coppiced ash or hazel poles (identifiable fragments of wood often survive within excavated examples of heads or ferrules). The diameter of the shaft was less than that of the thrusting spear (*hasta*) or two-handed lance (*contus*). Javelins were carried in multiples, normally in quivers slung on the haunch or shoulder of the horse, and Arrian stressed the importance of being able to cast several in rapid succession.

Missile retrieval must have been an important part of cavalry discipline, but it was clearly not always efficient. A letter from a *decurio* notes that his men were missing *lanceae* (although his troopers seem to have been particularly careless, lacking in some cases swords and also padded under-armour garments). Shafted weapons like javelins were prone to breakages, and the Corbridge Hoard contained bundles of javelin heads retaining mineralised remains of their broken wooden shafts (Allason-Jones & Bishop 1988).

THE EARLY PRINCIPATE (27 BC–AD 117)

Following his ultimate victory in the civil wars that ended the Roman Republic, the army reforms of the first *princeps*, Augustus, changed Roman cavalry forever. They became part of a professional army (albeit still with amateur commanders). Free men from the provinces could now be recruited into the *auxilia* with the promise of Roman citizenship upon retirement. They were enabled to possess the equipment that only elite warriors could previously own, by the simple expedient of instituting regular pay for them and then deducting the cost of their equipment in instalments. Effectively, Roman cavalry bought their equipment by hire purchase. That equipment changed radically with the increased employment of provincial, so-called 'Celtic' cavalry using the four-horned or 'Celto-Roman' saddle. First employed as mercenaries by the Carthaginians during Hannibal's invasion of the European mainland, such Gallic riders clearly impressed the Romans – and, as was their normal practice, what impressed them was rapidly adopted and adapted. Changes were not merely introduced to the equipment of the cavalry: they were also now initially formalised into distinct categories. Firstly, recruited from the Batavians, there were the *Germani corporis custodes* (later the *Equites singulares Augusti*), the mounted equivalent to the Praetorian Guard in that they formed part of an emperor's personal bodyguard. The

BELOW LEFT
Late 1st-century AD tombstone from Mainz in the Rhineland of the horse-archer Flavius Proclus, a member of the *Equites singulares Augusti*. The sculptor shows an arrow-quiver slung from the saddle – but is less convincing in his depiction of the drawn bowstring actually passing around the horse's neck. (Photo © M.C. Bishop)

BELOW RIGHT
On his tombstone from Bonn the heirs of this *eques legionis* of a *Legio I*, named Gaius Marius, chose to depict not the conventional trampled barbarian, but instead a panel showing his awards of military *torques* and *phalerae*. (Photo © M.C. Bishop)

Guard themselves had a small mounted contingent equivalent to legionary cavalry, who were socially (if not militarily) elite.

Secondly, there were the *equites legionis*. These were men like Gaius Marius of a *Legio I*, whose tombstone survived at Bonn (*CIL* XIII, 8059): horsemen belonging to the legions, who were thus Roman citizens. There were only 120 of these in each legion at the time Flavius Josephus was writing his late 1st-century AD *Jewish War* (3.120), and they appear to have been carried on the strength of the *centuriae* (two per century) rather than being organised into a separate subunit. Hadrian's later speech at Lambaesis gives the impression that they made hard work of simply throwing javelins while wearing armour (Speidel 2006: 9), and their function has traditionally been interpreted in terms of communications, acting as messengers. However, a case has been made for their primary role being that of a mounted bodyguard for the legion's *legatus* commander (Campbell 2022: 98). Since they were legionaries, their social status was inevitably higher than that of the auxiliary cavalry troopers.

Next came those auxiliary *alae*, recruited from provincials (like Bassus, son of Mucala, from a Thracian tribe, whose tombstone is at Cologne).

C

SWIMMING THE MENAI STRAITS; BRITAIN, AD 60

In this largely speculative plate, we try to reflect ancient references – both to the first crossing of the Menai Straits to the isle of Anglesey (*Mona insula*) under G. Suetonius Paulinus in AD 60, and to other examples of this well-reported capability of Batavian auxiliary cavalry, as mentioned below in the body text.

The tidal race in the funnel-like Menai Straits is fierce most of the time, but at slack tide it is possible for strong swimmers to cross it even now (though preparation for a mass crossing would have required detailed local knowledge and / or careful prior observations). The ancient crossing points are unknown, but two possible sites have been suggested. In the north-east of the narrows, the Lavan Sands sandbanks extend 5½ miles east-west at the lowest tide, leaving a sea channel only about 260 yards wide. Further south-west, between Y Felinheli and Castell Gwylam, one antiquarian reported a channel at slack tide nearly 400 yards across, but with weaker currents than in the narrower bottleneck.

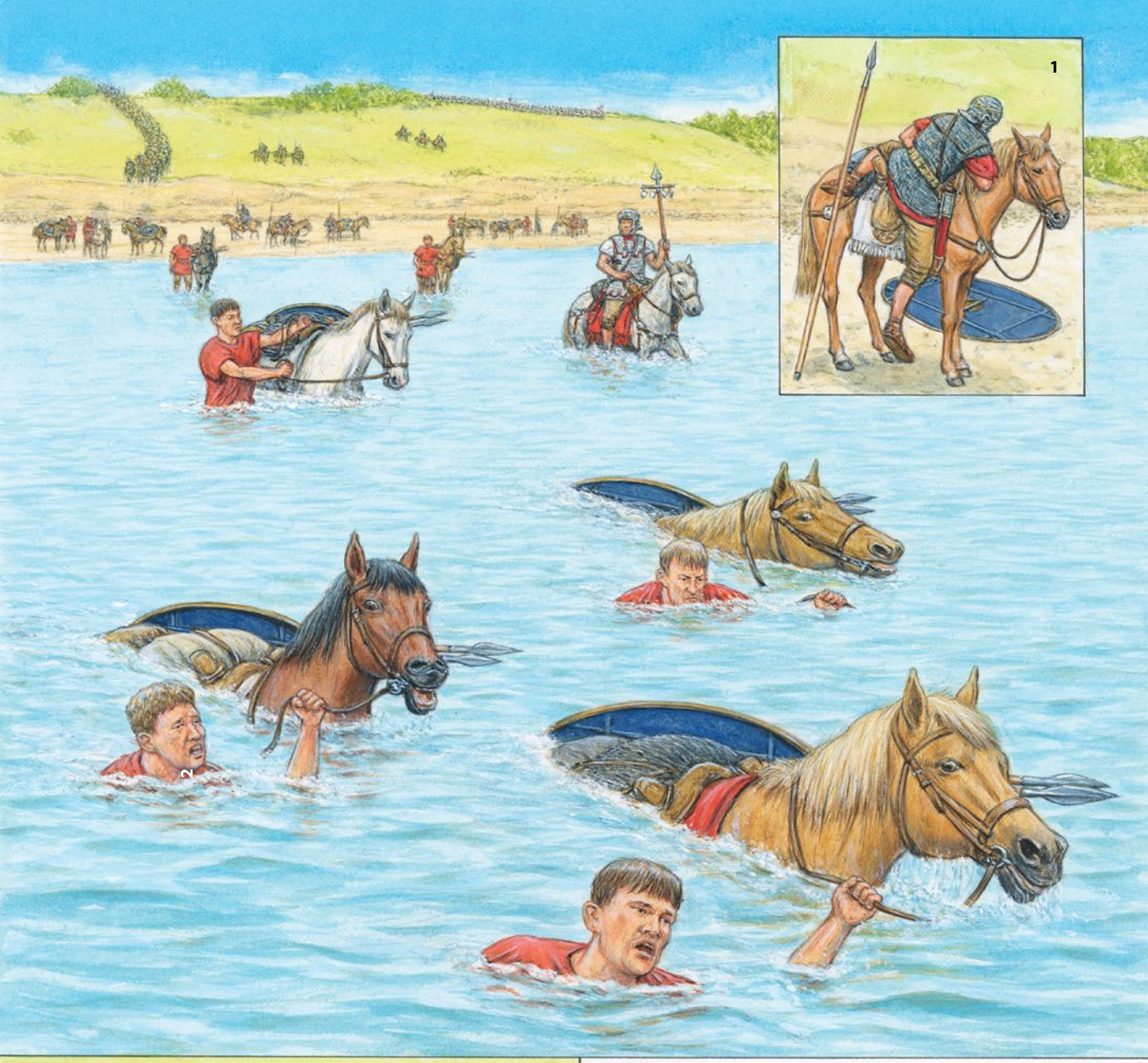
The Batavians (a subgroup of the Germanic Chatti people) inhabited the Rhine-Waal deltas, and were highly skilled in both boat-handling and horsemanship. Swimming water obstacles was something of a 'party piece', which gave them an element of surprise if their opponents had not previously encountered it. Horses will readily swim even with riders on their backs, and, depending upon circumstances, a relatively short swim while carrying a half-armoured rider would have been practical for even the small Roman horse. However, in describing Suetonius Paulinus's crossing Tacitus wrote of the Roman cavalry that 'some made use of fords, but in deeper water the men swam beside their horses' (*Annals*, XIV, 14–65), which suggests that they were unarmoured. An averagely fit man who tried to swim any distance in deep water while wearing a scale or mail shirt would quickly sink, so it seems likely that the Batavians used their horses to carry their armour (which was, of course, lighter than a rider).

Our main image thus shows most but not all of the cavalrymen doing this, having presumably entered the sea in a three-wide *turma* column. They grip the reins or a saddle-horn with the left hand, and swim with the right arm and by kicking their legs. We choose to show nearly all with their armour and weapons tied to the saddles. **(Inset 1)** shows a trooper dismounting on the beach to do this, and **(Inset 2)** is a guess at how armour might have been prepared for attachment to the saddle by thongs passed inside from armholes to skirt. This raises the question of how soon after landing they could put it on again before engaging the enemy. Partly for this reason we choose to show the *signifer* still wearing his lighter scale armour, and riding his swimming mount.

When Tacitus described Agricola's re-occupation of Anglesey in AD 77 he did not identify Batavians as being employed, and – given Civilis's uprising in 69 – it seems more likely that this second crossing was accomplished by men recruited in Britain. 'With some picked men of the auxiliaries, disencumbered of all baggage, who knew the shallows and had that national experience in swimming which enables them to take care not only of themselves but of their arms and horses, he delivered so unexpected an attack that the astonished enemy… thought that to such assailants nothing could be formidable or invincible' (*Agr.* 18.5, trans Church & Brodribb, amended by author).

Insets 3a, 3b & 3c

Calculating the weight of Roman scale and, particularly, mail armour is complicated by the scarcity and condition of archaeological finds, but a few are partly intact, and several modern scholars have made sophisticated calculations (see the author's Elite 252, *Roman Mail and Scale Armour*, bibliography, Sim & Kaminski, and Wijnhoven). Although the range of results is wide, we might speculate that a 'median-weight' iron mail shirt **(3a)** might weigh perhaps 6.6kg / 14.4 lbs, and a copper-alloy scale armour **(3b)** about 5kg / 11 lbs. A bi-metal Weyler-type helmet **(3c)** would add about another 1kg / 2.2 lbs, giving a notional total, minus shield and weapons, of 7.6kg / 16.6 lbs or 6kg / 13.2 lbs respectively. All in all, the exact achievements claimed in ancient sources for men supposedly swimming water obstacles in battle gear are hard to interpret, given the uncertain exact meaning and varied translations of the Latin phrase '*sub armis*'.



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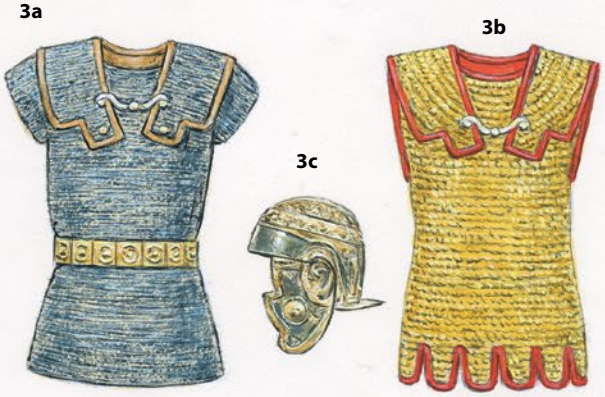

3a
3b
3c

Although badly weathered and damaged, this tombstone from Mainz is interesting. Of pre-Flavian date (i.e. earlier than AD 70), it commemorates a horse-archer named Maris of the *Ala Parthiorum et Araborum*, a unit of merged ethnicities. Although the carving shows that it originally included a saddle-quiver, the standing figure (left) is Maris's *calo* carrying extra arrows. (Photo © M.C. Bishop)

If they survived until retirement they were usually awarded Roman citizenship, and took a Roman *nom de guerre* (in the case of Bassus, under one of the Flavian emperors, as Titus Flavius Bassus). However, some units occasionally received earlier block grants of citizenship as a reward for exceptional deeds, adding 'CR' for *civium Romanorum* to their *ala* or *cohors* title.

Finally, there was a new type of provincial unit, the part-mounted *cohors equitata*, which comprised both a number of *centuriae* of auxiliary infantry and several cavalry *turmae*. (His tombstone from Gloucester [*RIB* 121] identifies the Thracian Rufus Sita, serving in *Cohors VI Thracum*, as one such cavalryman.) We know from the comments of Hadrian, when he was reviewing the army of North Africa, that there was a prevailing view that the *equites* of the *cohortes equitatae* were considered to be inferior to those of the *alae*; they were certainly paid less. The basis for the adoption of part-mounted mixed cohorts like these may have owed something to a Germanic practice reported by Caesar during his conflict with Ariovistus in 58 BC:

> The kind of fighting in which the Germans had trained themselves was as follows. There were six thousand horsemen, and as many footmen, as swift as they were brave, who had been chosen out of the whole force, one by each horseman for his personal protection. With them they worked in encounters; on them the horseman would retire, and they would concentrate speedily if any serious difficulty arose; they would form round any trooper who fell from his horse severely wounded; and if it was necessary to advance further in some direction or to retire more rapidly, their training made them so speedy that they could support themselves by the manes of the horses and keep up their pace. (Caesar, *Gallic War* 1.48, trans. Edwards)

To judge from the literary sources, the intermingling of cavalry and light infantry was in fact quite common, although it primarily seems to have been a mechanism for moving the infantry swiftly into battle rather than for enabling them to actually fight alongside the cavalry (Petitjean 2019: 28–31).

It is noteworthy that when Arrian described his battle plan against the Alani in AD 134 he proposed placing the cavalry of the *cohortes equitatae* behind the main body of infantry, while those of the *alae* are placed on the wings (Campbell 2022: 155–7). However, it is difficult to judge whether this was normal practice in a set-piece battle, or some innovative, edgy tactics on the part of a man who unselfconsciously gave himself the *nom de guerre* 'Xenophon'. Whatever the answer, the Germanic example at least shows that the concept of close cooperation between infantry and cavalry was known to the Romans.

In his speech at Lambaesis, Hadrian underlines the perceived status distinction between the cavalry of an *alae* and the lesser and lower-paid number within a mixed *cohors*. In his review of the troopers of *Cohors VI Commagenorum* from Asia Minor he notes (slightly churlishly):

> It is hard for cavalry in a *cohors* to be impressive even on their own, and it is even more difficult not to be seen as inferior after the performance of an *ala*: the training grounds are different; the number of javelin throwers is not the same; the right wheels are too crowded, the *Cantabricus* [manoeuvre] too tight; the quality of the horses, the presentation of weapons – all reflect the difference in pay. However, you have avoided [my] discontent with your enthusiasm, by energetically doing what was necessary. Additionally you could hurl stones with slings and engage with missiles; you mounted swiftly in every case. (Speidel 2006: Field 30, trans author)

A ferrous 1st-century AD cavalry helmet of Weyler type from Xanten (Germany), covered with silver sheathing embossed with a pattern of curled hair, and a gilded laurel wreath. Note, below the protruding arched ear-guard, the actual depiction of an ear on the embossed cheek-guard. (Photo © M.C. Bishop)

By perhaps the middle of the 1st century AD or a generation later under the Flavian emperors, organisational adjustments saw the introduction of what were effectively double-size auxiliary units: *alae milliariae* and *cohortes milliariae*, the latter including some part-mounted units. There were only seven *alae milliariae* throughout the entire empire, and these were based in the most militarily significant provinces. The *exercitus Britannicus*, for example, had only one – the *Ala Gallorum Petriana* – and the string of honours that it received in the 1st century AD (block grants of citizenship and, twice, *torques* for bravery) suggests that it was an elite unit in both the military and social senses of the term.

The equipment of auxiliary cavalry in the Early Principate reflected their primary function as light horse. A writing tablet excavated from the cavalry fort of Luguvalium at Carlisle on Hadrian's Wall contains a report written by a *decurio* called Docilis to his *praefectus* in far-from-perfect Latin, listing all of the equipment that his men (he called them *lanciarii*, or 'javelineers') were missing (Speidel 2007), including javelins (*lanciae*), swords (*gladium* – [sic]), and arming doublets for wear under armour (*subarmalis*). Tombstones, and finds from archaeological excavations, show cavalrymen to have worn either mail or scale armour, and elaborately embossed ferrous or copper-alloy helmets, often tinned or silvered. Interestingly, cavalry helmets of this period covered the ears of the trooper, even incorporating a moulded imitation of the human ear; this suggests that the communication of commands using musical instruments and standards was more important than the spoken word. Finally, oval or hexagonal cross-ply shields with a horizontal hand grip were the norm; the rider would need to successfully hold the reins and the shield-grip with his left hand while fighting with his sword or a shafted weapon in his right.

Consolidated remains of a mail shirt from Aalen (Germany), a post which was garrisoned in the 2nd–3rd centuries AD by the *Ala II Flavia milliaria*. (Photo WolfgngSauber / Wikimedia CC BY-SA 4.0)

The identification of stable-barracks at many cavalry bases (such as Wallsend on Hadrian's Wall) has shone interesting new light on cavalry under the Principate. Infantry barracks typically housed a *contubernium* (tent squad) of eight men in two rooms – the *arma* (for storage of equipment), and the *papilio* (where they slept); ten of these pairs of rooms thus accommodated an 80-man century. Stable-barracks were much the same, but with three cavalrymen sleeping in the rear room of each pair and their horses accommodated in the front. Archaeologically, the horse stalls are recognisable by a large soakaway pit (which would have had a removable cover), which phosphate analysis invariably shows was for the horses' urine. The barrack arrangement does suggest that there was a capacity for a *turma* to operate as three files or ranks of ten men, but no literary (or, as yet, sub-literary) evidence has survived to confirm this.

STRATEGIC DEPLOYMENT

Auxiliary units were stationed throughout the empire, both in 'senatorial' provinces (which often had legions in garrison) and 'equestrian' ones (which did not). Auxiliary infantry, cavalry and mixed units were spread fairly evenly, but with one exception: legionary bases were invariably accompanied by an auxiliary *ala*, either in a nearby fort or even based within the legionary fortress. This was probably for tactical reasons, as will become apparent, but it obviously had an effect on the strategic distribution of cavalry.

Cavalry units naturally had an important role patrolling occupied territory, being able to cover much longer distances than were possible for infantry units. This would be particularly important in frontier regions, where there might be a risk of low-intensity infiltration for cattle-raiding or brigandage. As an example, examination of the units present along the line of Hadrian's Wall reveals infantry, cavalry and mixed units all deployed. Protecting the Wall almost certainly required troops to man it and its associated turrets, milecastles and gateways, but also to patrol to the north and south of it. Here the traditional scouting, skirmishing and pursuit abilities of Principate cavalry would have come into their own. Communications would also have been an important consideration for the passage of information and even, occasionally, goods between garrisons (*ostraca* record how cavalry couriers were used to transport perishable fish between forts along the road from Coptos to Myos Hormos in Egypt).

Copper-alloy scale body armour from Newstead (Scottish Borders), which in the 2nd century AD was garrisoned in part by the *Ala Augusta Vocontiorum*. The Voconti were a Gallic people who originally inhabited what is now the Vaucluse department of France. (Photo © M.C. Bishop)

The Romans on Britain's northern frontier encountered British horsemen, although they do not seem to have regarded them as a serious threat, and Roman cavalry units are unlikely to have been located specifically to counter them. A wooden writing tablet preserves a brief and slightly contemptuous word-picture of British horsemen: 'There are very many cavalry. The cavalry do not use swords, nor are the little Brits mounted when casting javelins' (*Tab. Vind.* 1.164). The point being, of course, that Roman cavalry *did* use the sword (as boldly demonstrated on the tombstone of Insus – see page 30), *and* threw javelins from on horseback (witness the Elder Pliny, and particularly Arrian).

Peter Connolly's reconstruction of an articulated copper-alloy armguard (*manica*) from Newstead. (Photo © M.C. Bishop)

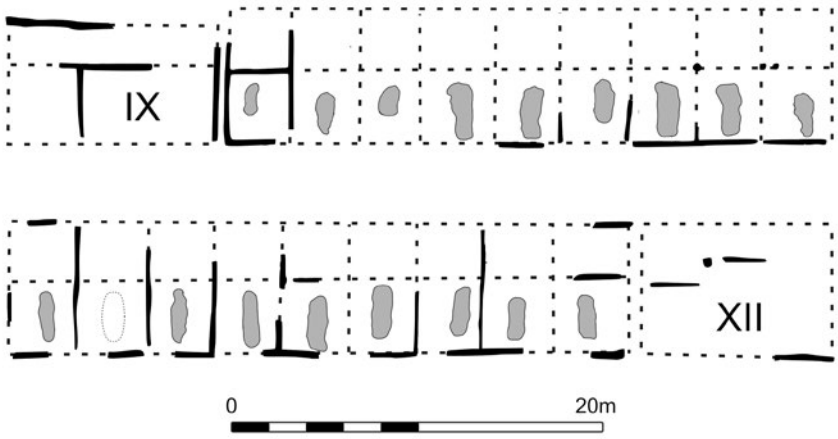
TACTICAL DEPLOYMENT

As was the case under the Republic, auxiliary cavalry during the Early Principate acted in support of the legions on the battlefield (*auxilium* is the Latin for 'help' or 'assistance'). This was clearly the reason for the proximity of cavalry to legionary bases: heavy legionary infantry were specifically intended to fight en masse in a pitched battle, but they could be more vulnerable in any form of asymmetric warfare, as various insurgent forces repeatedly demonstrated. The *equites legiones*, at only 120 men for every *c.*5,000-strong legion, were clearly never intended to neutralise that threat. Therefore most (perhaps all) legionary fortresses either had a cavalry fort in close proximity – as with Carnuntum and Petronell (Austria), Lambaesis fortress and fort (Algeria), and Colchester and Gosbecks (eastern Britain) – or actually had a cavalry contingent based within the fortress, as at Neuss (Germany) and Nijmegen (Netherlands).

On the march, cavalry not only provided the vanguard and rearguard, and screened the flanks of an army, but also had a role to play when fording rivers. Vegetius, probably drawing upon Julius Frontinus's lost late 1st-century *De Re Militari* as his source, advised:

> Therefore with a ford scouted, two lines of cavalry with chosen horses are deployed, separated by a suitable distance, so that the infantry and baggage should cross between them. For the upper line breaks the force of the water, the lower collects and takes across those who might have been knocked over and swept away. (Vegetius, *DRM* 3.7, trans author)

The structure of the army in this period was basically the same as it had been under the Republic: primarily designed for set-piece battles, even though (outside of civil wars) these became increasingly rare. It seldom took long for an opposing native force to realise that, while they stood little chance of defeating a Roman field army in formal battle, they could cause considerable problems for them through the application of asymmetric 'guerrilla' tactics. In such situations detachments from one or more legions, termed *vexillationes* (since they marched under a *vexillum* flag as their own standard), together with accompanying auxiliary infantry and cavalry, allowed greater flexibility



Plan of Buildings IX and XII in the cavalry stable-barrack blocks of the timber Hadrianic fort at Wallsend (Britain), home to an unidentified part-mounted cohort. This illustrates the adjacent accommodation for the soldiers and their mounts, with the horse stalls incorporating soakaway pits. (Drawing © M.C. Bishop)

in forming small, medium or large battle groups. *Ad hoc* command of a *vexillatio* might be awarded to a tribune or even to a senior centurion with the necessary command experience.

It is clear from surviving documentation that cavalry units could be further divided to serve on outpost duties as *stationarii*, or forming part of a commander's bodyguard as *singulares*. A strength report known as 'Hunt's *pridianum*' breaks down the absentees from, *Cohors I Hispanorum veteranum equitata* in Moesia, which include 23 *equites* on a mission across the Danube (probably as part of a larger force), and two men at a post simply called Castra (presumably not by themselves?).

D

ARRIAN'S *TECHNĒ TAKTIKĒ*, *c.*AD 130–140

This plate illustrates two manoeuvres from Arrian's description of the Roman cavalry's *hippika gymnasia*, written in his native Greek as the *Technē taktikē* (in Latin, *Ars tactica)*. These 'cavalry sports' (in the inexact modern term) were an ingenious combination of training and display, designed to exercise both riders and horses in the sort of manoeuvres that would be required of them on the battlefield. They were enlivened by an element of competition, with one *turma* being matched against another, which provided a spectacle (and no doubt temptations to lay bets) for their fellow officers and soldiers. They were also important as an opportunity for senior reviewing officers to judge their competence in controlling their mounts, throwing javelins from horseback, and working in concert with their comrades.

I: *Xynema*

After manoeuvres termed the *chelona*, the *petrinos* and the *kantabrikos* (see body text), which saw the riders of the opposing teams throwing dummy javelins at one another, the *xynema* called for the soldiers of a *turma* to ride forward in succession to throw real javelins at a stationary target, on the approach and on the turn. Three hits were desirable, and four a sign of real proficiency.

II: *Touloutegon*

This fifth manoeuvre has been interpreted as successive riders charging in file with a thrusting spear, followed by a 'roll-back' – a halt and pivot – and then a retreat covered by the shield held behind by twisting the upper body to the left.

Inset

Cavalrymen were turned out at their most impressive for the *hippika gymnasia*. Arrian mentions tunics of Cimmerian scarlet and hyacinth-blue, which were sometimes worn not under but instead of body-armour, in which case iconography suggests that they were lavishly decorated. A thorough study of cavalry tombstones in the Rhineland suggests that even in the Early Principate many cavalry tunics were long-sleeved, with turn-back cuffs.

Arrian also described yellow horsehair plumes added to some helmets. The best of the horsemen were selected to wear face-mask helmets for some of the performance. Not only did these protect their faces from the dummy javelins, and add to the visual drama of the event; they also presented a further challenge to the riders, since they seriously restricted the field of view, hampering their situational awareness and making it harder to throw javelins accurately. (This echoes the practice of Roman infantry being trained with double-weight weapons.)

The horses were also fitted with protective chamfrons over their faces; in the Early Principate these were mainly of studded leather with pierced copper-alloy eye-guards, and in the later periods of hinged copper-alloy plates with integral eye-pieces.

I

II

ROLL
BACK

This cavalry tombstone from Lancaster (Britain) goes further than depicting the conventional trampled barbarian figure: his head has been severed, and is carried by its long hair from the rider's right hand below his sword hilt. The inscription names this auxiliary as Insus, from the Treveri people of western Germany, who died in the later 1st century AD while serving in the *Ala Augusta Gallorum Proculeiana*. He is identified as a *curator* (roughly, a junior quartermaster); he wears a crested helmet apparently with side-feathers, and his harness breast-strap is decoratively fringed. His tunic shows long sleeves with turn-back cuffs. (Photo © M.C. Bishop)

Arrian on the *hippika gymnasia*

A detailed insight into the tactical use of cavalry in this period is provided by the same Arrian who confronted the Alani in AD 134 (see Plate E), and is thought by some modern scholars to have been a friend of Hadrian (Campbell 2022: 3). Governor of the province of Cappadocia in modern Turkey *c.*AD130–136, and thus commander of the forces stationed there, the Greek-born Flavius Arrianus was also an accomplished literary figure. Among his writings was the *Technē taktikē*, a document which described the classical infantry phalanx, and then, somewhat incongruously, the contemporary auxiliary cavalry exercises which he termed the *hippika gymnasia* (a literal translation into Greek of the Latin term *exercitatio equestris*). Arrian described a series of evolutions, part display (since they were performed in front of an audience), and part team exercises (Hyland 1993), which were clearly designed to train cavalrymen in manoeuvres employed in actual combat and, more particularly, when skirmishing.

The display began with a charge from cover, as both teams burst into the arena from concealment (the *e tecto*, 'emergence from cover' or ambush). The first exercise, named the *chelona* or 'tortoise' (not to be confused with the infantry formation of that name), allowed one stationary team to practise protecting themselves and their mounts against missiles with their shields held to the left rear, while the assailants rode past in turn and threw dummy javelins at them. (This foreshadows what in the 16th–17th centuries, and using wheellock pistols, would be termed the 'caracole': Petitjean 2019: Fig.5). In the subsequent *petrinos*, members of the defending team then attempted to drive off the attackers using missiles in their own caracole.

Next, the *kantabrikos / cantabricus* saw the two opposing teams forming rotating circles within throwing range and taking turns to exchange javelins at the same time as defending themselves with their shields. The *xynema* then saw the *turma* advancing in file to throw real javelins at a stationary target on the turn, before the demonstration moved on to the *touloutegon*, which Hyland (1993:94 with 96 n.20) interprets as a 'roll-back' – a halt and sudden turn to retreat (for both manoeuvres see Plate D). The final demonstration, the *hodoiporikon* ('itinerary') might be vaguely compared to a World War II fighter squadron's 'scramble', since men in full battle equipment had to vault onto moving horses – a skill that the late 4th-century writer Vegetius still judged as useful (Milner 1996: 18).

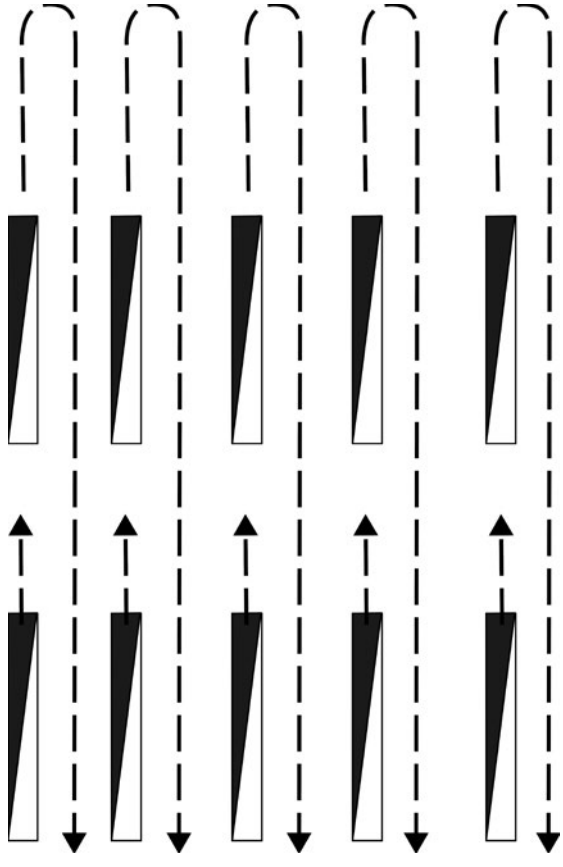
Confirmation of the contents of the *hippika gymnasia* comes from a contemporary inscription, apparently preserving the words of the Emperor Hadrian himself when reviewing the army of the province of Numidia during his visit there in AD 128 (Speidel 2007). On this occasion both *alae* and *cohortes equitatae* demonstrated the same evolutions. What Arrian and Hadrian described were the basic tactical building blocks for skirmishing cavalry, reflecting the function of Early Principate mounted troops to scout

for, screen, and 'mop up' after the main combat force. Repeatedly practising these manoeuvres in the *hippika gymnasia* (with the added incentive of the element of competition) would perfect the skills of *turmae* in deploying them on the battlefield.

Further confirmation of the practical application of the evolutions practised in the *hippika gymnasia* seems to figure in Tacitus's comparison of the simplicity of Germanic cavalry tactics with those used by Roman auxiliary cavalry:

> Only a few have body armour, and just one or two here and there a helmet of either type [metal or leather]. Their horses are not noted for beauty nor for fleetness. Nor are they taught various evolutions after our fashion, but are led straight forward, or so as to make one wheel to the right in such a compact body that none is left behind another. (Tacitus, *Germania* 6.3, trans Church & Brodribb)

What is striking about the evolutions of the *hippika gymnasia* is that they all required the soldiers of a *turma* to operate in file (columns), and none of them demanded movement in line (ranks). The unavoidable implication is therefore that this was also the practice when it came to actual combat. Once called into action against a fleeing enemy, an *ala*, or the cavalry component of a *cohors equitata*, would presumably divide into individual *turmae* in order to spread out and wreak the maximum havoc, rather than operating as a single body of hundreds of riders. Unfortunately, the literary sources are largely silent on such matters – although Titus's leading of 200 cavalrymen into the besieged city of Gamala in AD 67 (Josephus, *BJ* 4.1.10) can only have been effective if these *turmae* operated in file along the streets.



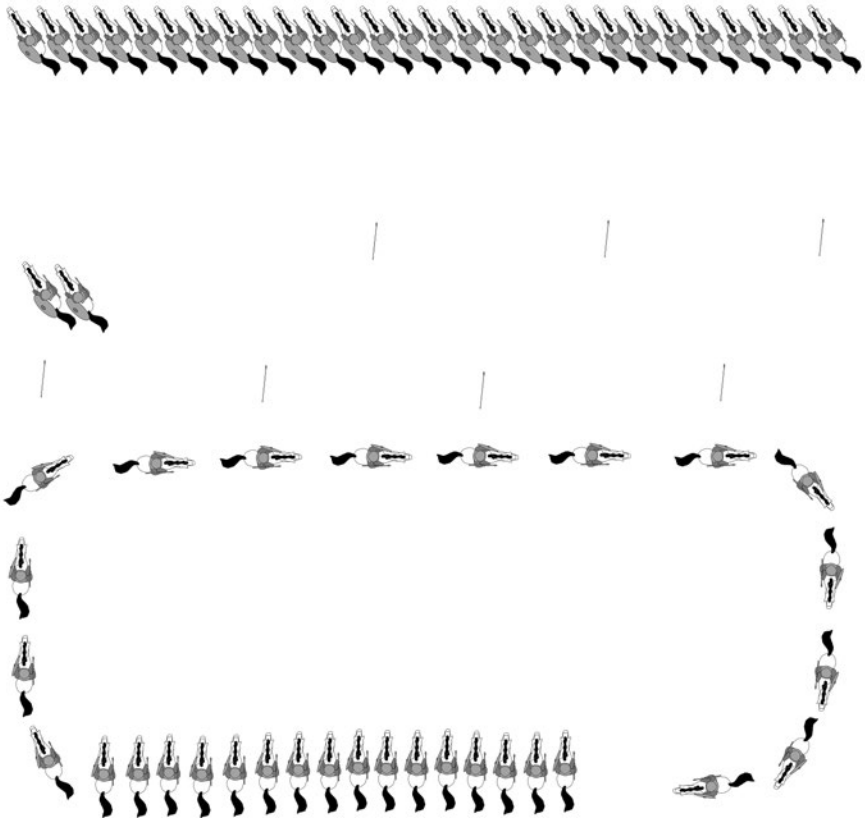
Use of the 'caracole' by Scipio Aemilianus at the battle of Nepheris in 147 BC. In this reconstruction, ten *turmae* of cavalry, drawn up in two lines of columns, each advance in files and throw javelins (presumably three men at a time), then turn and retreat through the gaps while those behind them advance to throw in their turn. (Drawing © M.C. Bishop)

A passage in Tacitus's *Annals* has in the past been argued to suggest that, during the capture of Caratacus's family by troops under the command of Ostorius Scapula in *c*.AD 50, dismounted cavalry were used in the final assault:

> When they [the Britons] faced the auxiliaries, they were felled by the *gladii* and *pila* of our legionaries; if they wheeled round, they were again met by the *spathae* and *hastae* of the auxiliaries. (Tactitus, *Ann.*12.35, trans Church & Brodribb, amended by author)

The term *spatha* was not in specific use for cavalry swords at the time being described, but it was in Tacitus's day, so seems here to be an anachronism introduced by the writer. This is far from impeccable evidence for the use of dismounted cavalry rather than auxiliary infantry.

A number of striking funerary carvings of the Early Principate, depicting individual cavalrymen trampling a cowering barbarian foe, are all too obviously an idealised view of how cavalrymen saw themselves, while at



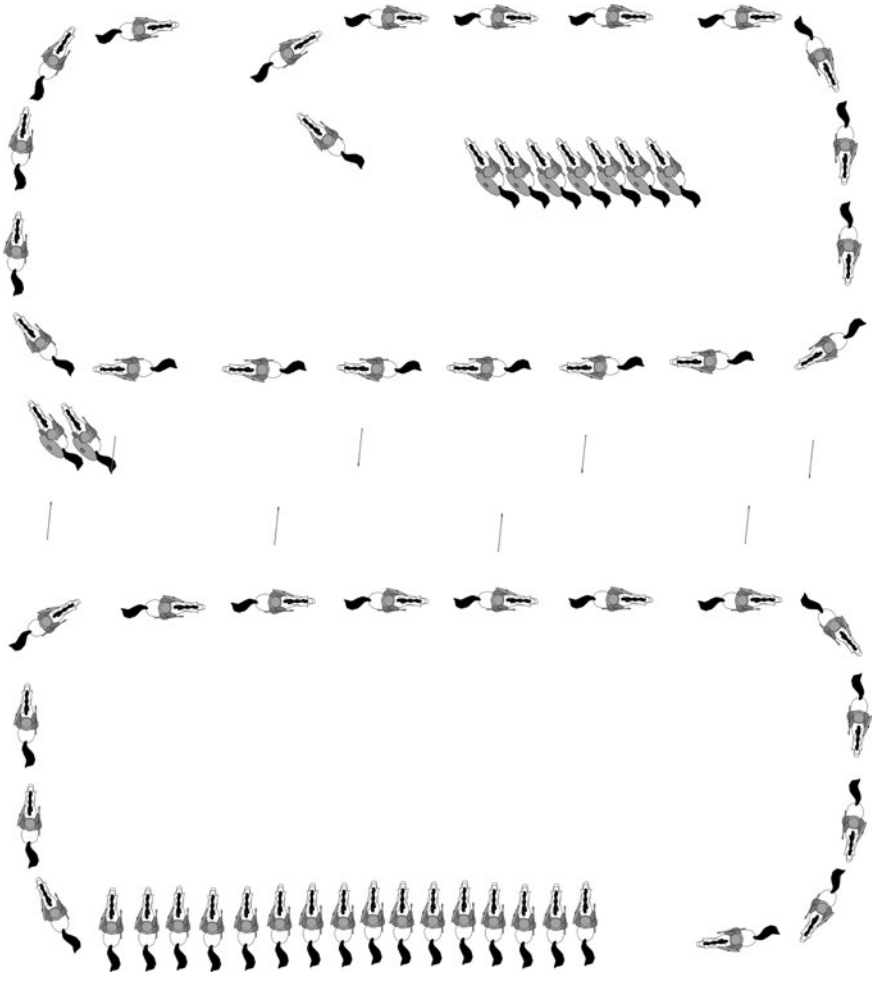
Arrian's *chelona* exercise (not to be confused with the infantry's 'tortoise'). One *turma* (top) stand to receive dummy missiles from the clockwise-circling opposing team (below), while protecting themselves and their horses by holding their shields swung back over the rumps. The two lone riders (left) present themselves as principal targets; they would presumably have been among those equipped with protective face-mask helmets. (Drawing © M.C. Bishop)

the same time being heavily influenced by Thracian 'rider god' sculpture from the Danubian region. Cavalry actions depicted on the reliefs of the helical frieze of Trajan's Column in Rome are inevitably equally stylised in different ways, and comparable to provincial sculptures depicting cavalry actions, such as seem to have existed at Arlon (Belgium), and in Germany at Koblenz, Wesseling-Keldenich and Lüttich (see Gabelmann 1973). Stylistically, the latter are more closely linked to provincial tombstones than the Hellenised metropolitan Column reliefs. The tombstone of Insus from Lancaster introduces a note of grim realism with its depiction of head-taking by Roman auxiliary soldiers, a practice which is also referenced on the reliefs of Trajan's Column (Scenes XXIV and LXXII).

NOTABLE ACTIONS

Crossing the Menai Straits, AD 60

A repeated theme in historical writings of the Early Principate was the use of specialist cavalry for one particular task: swimming across water obstacles. While it is possible that this may sometimes have been a convention that historians inserted in order to add colour to their narratives, it nevertheless featured in various Roman campaigns, including the crossing of the Ems (Germany) by Germanicus in AD 15 (Tacitus, *Ann.* 2.8), and, in Britain, those of the Medway in AD 43 (Cassius Dio 60.20), and of the Menai Straits to attack Anglesey in AD 60 by Suetonius Paulinus (Tacitus, *Ann.* 14.29). Tacitus also mentioned a second crossing of the Straits under his father-in-law Agricola in AD 77 (*Ag.* 18), but this may perhaps be a confusion or



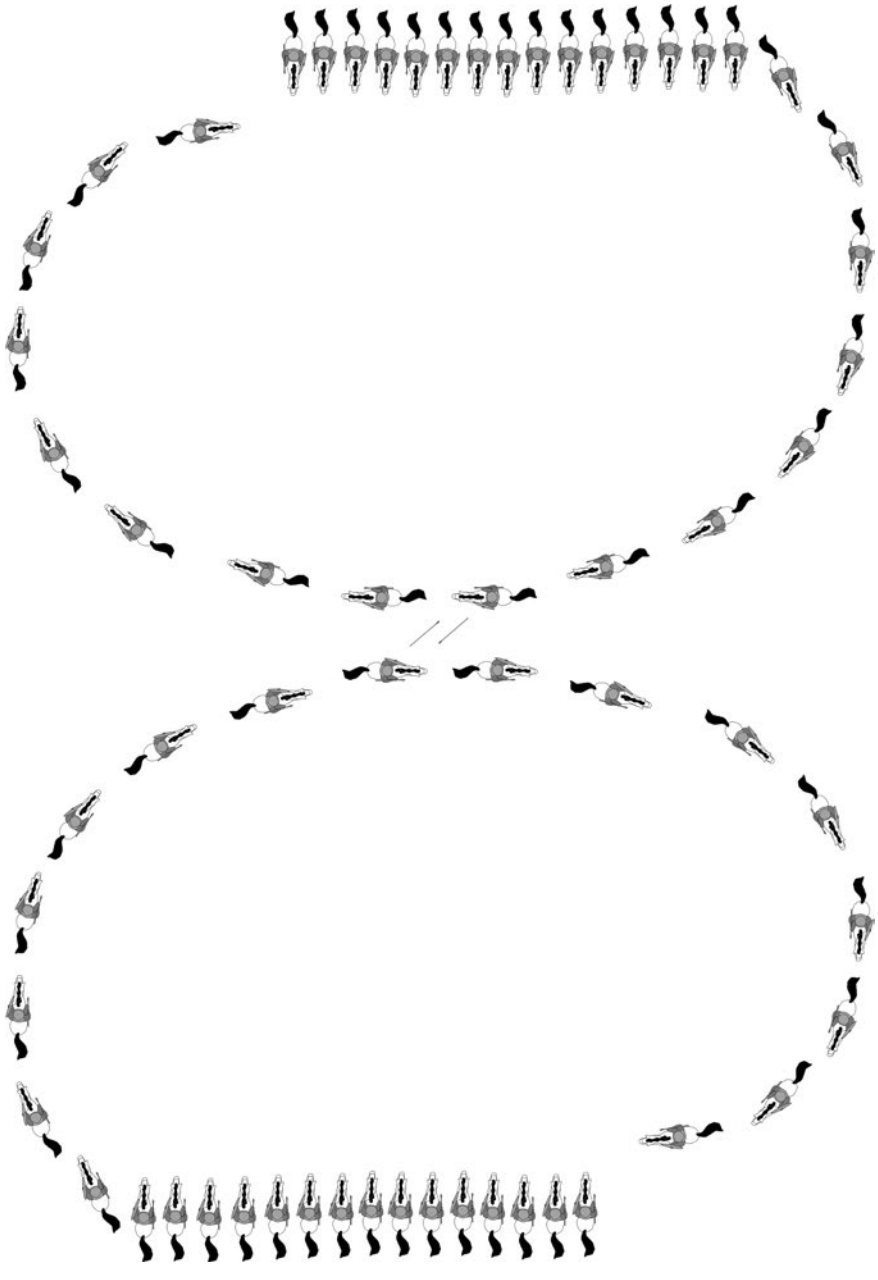
Arrian's *petrinos* is a development of the *testudo*, whereby the target team (top) venture out in single file to try to repel the attackers with their own javelins. (Drawing © M.C. Bishop)

conflation with the AD 60 assault (particularly since Tacitus stressed that the tactic was unexpected – see under Plate C above – an odd thing to write so relatively soon after Paulinus's successful application of it).

The tactic clearly exploited an enemy's expectation that while cavalry might ford a river that was sufficiently shallow, they would be incapable of crossing deeper waters. Some have suggested that this was accomplished by means of a technique mentioned 300 years later by Vegetius:

> Indeed, cavalry make bundles of dry reeds or sticks, upon which they place their armour and weapons to avoid getting them wet; they themselves swim across with their horses, towing the bundles behind them using straps. (Vegetius, *DRM* 3.8, trans author)

However, when describing the crossing under Suetonius Paulinus, Tacitus explicitly stated that the Batavian cavalrymen were swimming beside their horses, so they were probably gripping the reins or saddle-horns and using their mounts to carry their armour and equipment (see Plate C). One member of Hadrian's mounted bodyguard, the *Equites singulares*, who were recruited from Batavians, later boasted of his abilities to swim the Danube in battle equipment (*'sub armis'*) with his horse, and to shoot an arrow up in the air

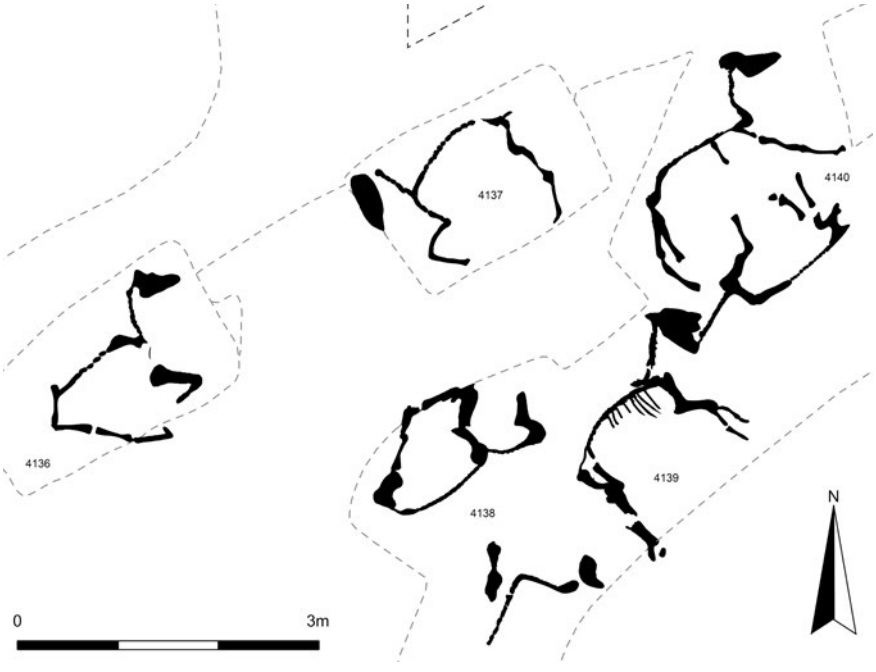


Arrian's *kantabricos* then saw the opposing *turmae* both circling clockwise, shield to shield, and exchanging missiles at the point where they passed most closely. (Drawing © M.C. Bishop)

and then split it with a second (Speidel 1991). But the Menai Straits are not the Danube, and this bodyguard's unconvincing brag does nothing to cast doubt on Tacitus's account.

Gelduba, AD 69

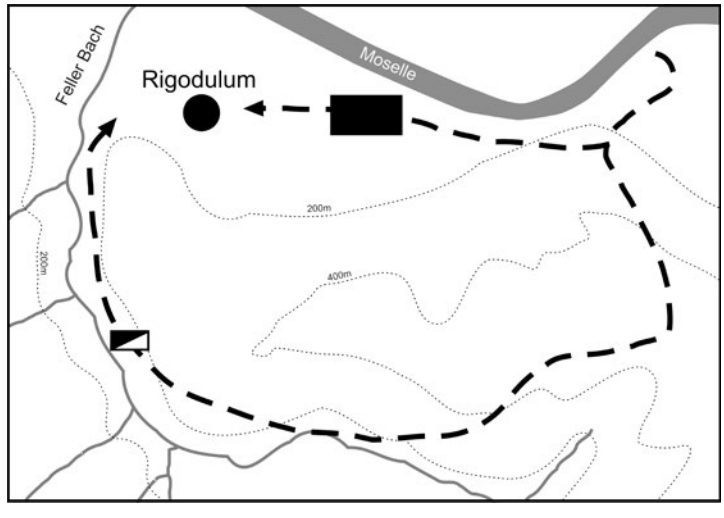
One of the best archaeologically attested cavalry actions of the Early Principate was undoubtedly the battle of Gelduba, fought near modern Krefeld-Gellep (Germany). It is also one of the few cavalry actions of this period for which there is both literary and archaeological evidence. It occurred during the Batavian revolt of AD 69–70, at a time when Rome was already embroiled in the complex civil wars of 'The Year of the Four Emperors' (AD 69, following



Burials of seven horses at Krefeld-Gellep (Gemany), the site of the battle of Gelduba in AD 69. They will have been buried where they fell; note how they were heading in two opposing directions. (Drawing © M.C. Bishop)

the death of Nero the previous year). It saw eight or nine units of mutinous Batavian auxiliaries under their leader, Julius Civilis, together with other tribesmen, taking on the Roman armies of Germania, alongside whom they had previously been serving. Loyalist Roman cavalry, emerging from a large encampment on the left bank of the Rhine set up by Dillius Vocula, engaged with rebel horsemen, resulting in a considerable number of mounts being killed in proximity to the camp defences. Tacitus records the first phase of the encounter, which did not go well for the Romans:

> Civilis retained part of his troops with him, but despatched the veteran cohorts and the best of the Germans under the leadership of Julius Maximus and Claudius Victor, his own nephew, to attack Vocula and his army [at Gelduba]. On their march they plundered the winter quarters of an *ala* at Asciburgium [Moers-Asberg]... They assailed Vocula's camp so unexpectedly that he could not address his soldiers or form his men in line; the only advice that he could give in the confusion was to strengthen the centre with the legionaries: the auxiliary troops were scattered about everywhere. The Roman cavalry charged, but, being received by the enemy in good order, fled back to their own lines. What followed was a massacre, not a battle. (Tacitus, *Hist.* 4.33, trans Moore)



At the battle of Rigodulum, AD 70, Cerealis sent his main infantry force directly west along the Moselle towards the town held by the rebel Treveri, while his cavalry hooked southwards over higher ground, then followed the Feller Bach tributary to catch the defeated rebels as they fled from Rigodulum. (Sketch map © M.C. Bishop)

The Batavians broke into Vocula's camp, but were then counter-attacked in the rear by arriving Basque auxiliaries, causing them to flee in their turn:

> Some cohorts of the Vascones which the Emperor Galba had levied earlier and which had now been sent for, approaching the camp and hearing the sound of the struggle, attacked the enemy in the rear while they were absorbed in the contest, and caused a more widespread panic than their numbers warranted, some imagining that all the troops from Novaesium [Neuss], others that those from Mogontiacum [Mainz] had arrived. The enemy's mistake inspired the Romans with courage, and while trusting in the strength of others, they recovered their own. All the best of the Batavian infantry were cut down; their [cavalry] escaped with the standards and captives that they had seized at the first onset. The number of the killed on our side that day was larger, but was not made up of the bravest; the Germans lost their very best troops. (Tacitus, *Hist.* 4.33, trans Moore)

At least one of the cohorts of Basques (*Cohors II Vasconum equitata*) appears to have been part-mounted, and was subsequently deployed to Britain. This action at Gelduba was unusual in that it did not conform to the standard

E

ARRIAN'S *ALANI* CAMPAIGN; TURKEY, AD 134

The order of march and battle disposition described by the governor of Cappadocia, Lucius Flavius Arrianus, as relating to his campaign against the formidable steppe horsemen of the Alans, have long attracted attention, not least because it has been unclear whether this was a purely hypothetical 'thought experiment' or a description of an actual action against the invaders. It is now generally believed to describe real events, and is thus an extremely valuable description of the deployment of a Roman field army in the first half of the 2nd century. It makes clear the roles of the cavalry, both in screening the vanguard, rear and flanks of the marching column, and in supporting the flanks of the infantry (and in this particular case, their centre, by archery) once it was deployed for battle. Arrian's plan thus included an adaptation to the customary practice of limiting the cavalry's part in battle until the infantry had secured a victory and a bloody mounted pursuit could begin. The units represented in these schematics are as follows (abbreviations *Cohors* = *Coh*; *Cohortes* = *Cohh*):

(I) Column of march (not to scale – four men wide):
(1) Scouts, & cav from *Coh Eq III Petraeorum*; **(2)** *Ala II Auriana* + cav *from Coh Eq IV Raetorum*; **(3)** *Ala I Coloniorum* + cav from *Cohh Eq II Ituraeorum, III Cyrenaica* & *I Raetorum*; **(4)** cav from *Coh Eq I Germanorum*; **(5)** inf from *Cohh Eq I Italica* & *III Cyrenaica*; **(6)** *Cohh Eq I Bosporanorum* & *I Numidarum* – cav flanking inf; **(7)** *Equites singulares*, bodyguard of commanding general, ahead of assembled *Equites legiones*; **(8)** artillery catapults, followed by 'javelin men'; **(9)** *Legio XV Apollinaris*, led by mounted officers, & **(10)** flanked by *Ala II Gallorum*; **(11)** *Legio XII Fulminata*, led by mounted officers, & **(12)** flanked by cav from *Coh Eq I Italica*; **(13)** inf of provincial militia & *Coh Eq Apula*; **(14)** baggage train; **(15)** *Ala I Dacorum*.

(II) Line of battle (not to scale):
(1) Inf from *Cohh Eq Apula & III Cyrenaica*; **(2)** provincial militia inf; **(3)** inf from *Coh Eq I Italica*; **(4)** Armenian allied inf & horse-archers; **(5)** *Legio XII Fulminata*; **(6)** *Legio XV Apollinaris*; **(7) & (7-) (-7)** artillery catapults; **(8-) (-8)** inf archers from *Cohh Eq I Numidarum*, *III Cyrenaica*, *I Bosporanorum* & *I Ituraeorum*; **(9)** *Ala I Dacorum*; **(10)** *Ala II Gallorum*; **(11)** *Ala I Coloniorum*; **(12)** *Ala II Auriana*; **(13-) (-13)** cav from *Cohh Eq I Bosporanorum*, *I Italica*, *I Ituraeorum*, *III Cyrenaica*, *I Germanorum*, *I Numidarum*, *I Raetorum*, *III Petraeorum* & *IV Raetorum*; **(14)** commanding general and bodyguard.

Inset 1: *Auxilia*
An impression of infantry and cavalry of a *cohors equitata* on the march. The infantryman's slung helmet is reinforced with crossbars roughly retro-fitted to the skull, a feature first seen in iconography commemorating Trajan's Dacian Wars of AD 101–106, and confirmed by archaeology. He carries his shield in its leather cover, and his camping gear attached to a forked pole. The troopers have their kit slung from their saddles, including a quiver for perhaps half-a-dozen javelins.

Inset 2: *Milites legionis*
This illustrates the solid core of the battle line, which the cavalry flanked and supported; the legionaries form an eight-rank shield-wall with their curved rectangular *scuta*. This *centurio* wears the same *lorica segmentata* as his men, but is distinguished by his sideways helmet-crest, his *pteryges* and greaves; his right arm is also protected by an articulated *manica*. We show him waiting for the enemy assault in close order, as the front-rank 'right marker' of his century. He holds his weighted *pilum* levelled ready to thrust; the second to fourth ranks were ready to do the same, while the fifth to eighth ranks prepared to throw their javelins over the heads of their comrades. Immediately behind the legion the massed auxiliary foot-archers were drawn up; behind them were catapults; and finally the cavalry of the part-mounted cohorts, including horse-archers.

I

(1)
(2)
(3)
(4)
(5)
(6)
(7)
(8)
(9)
(10)
(11)
(12)
(13)
(14)
(15)

Cav of *cohortes equitatae*
Inf of *Cohh eq*
Cavalry alae
Eqs singulares
Eqs legiones & legion officers
Legionary inf
Provinvial *militia* & allies
Catapult artillery
Baggage train

II

(1)
(2)
(3)
(4)
(5)
(6)
(7)
(7)
(8–)
(–8)
(9)
(7–)
(–7)
(11)
(13–)
(14)
(–13)
(10)

flanking or 'mopping up' tactics familiar from most Roman set-piece battles. Instead, it seems to have involved the offensive employment of light cavalry in a frontal assault against similar opposing troops.

The fact that the animals were then buried where they fell (moving a dead horse remains challenging today, without the aid of a machine like a telehandler) means that the large-scale excavations around Krefeld-Gellep, which have plotted these graves, provide some insight into the battle (Reichmann 1999) – although the situation is complicated by the fact that another cavalry action, with accompanying horse burials, seems to have been fought at the same location during the 3rd century AD. Even so, the fact that horses were found facing roughly in two opposing directions may be significant (since they were unlikely to have been turned for burial). Most of the horses had been stripped of their equipment, but a few items remained, such as ring bits.

Rigodulum, AD 70

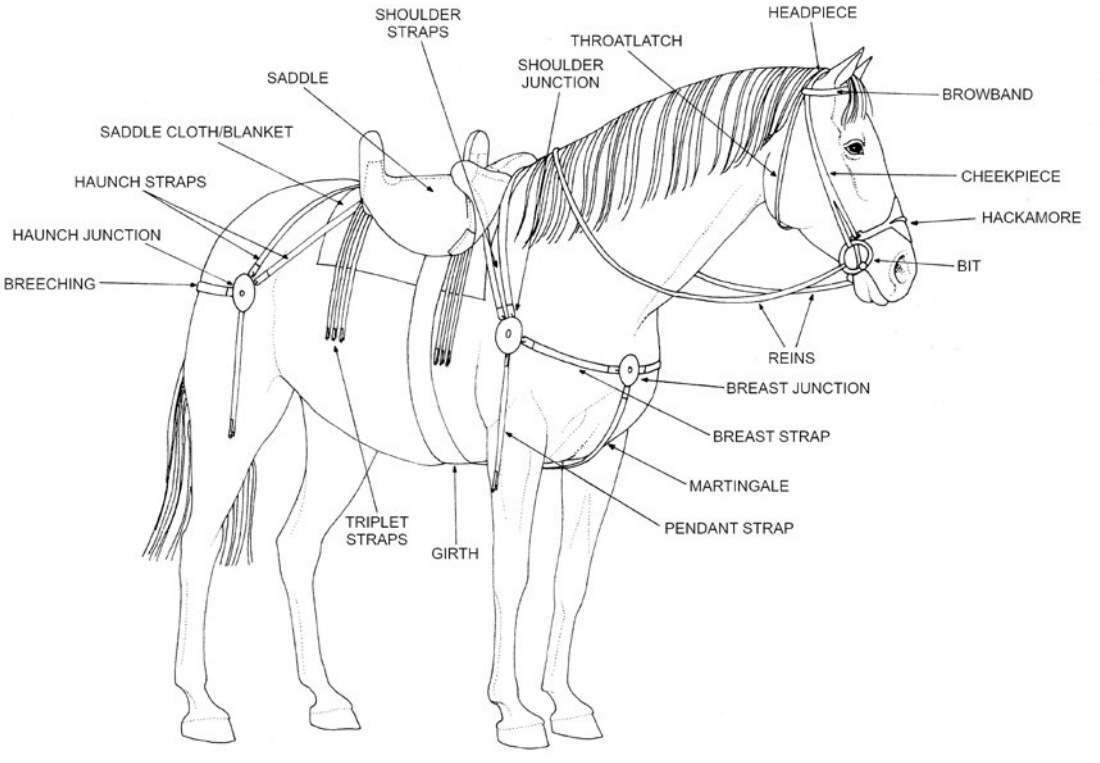
Another notable action of that same war was fought near modern Riol (Germany). This location lay next to the river Moselle, in the angle of its confluence with the Feller Bach. It had been occupied by a Batavian-allied force of Treveri under Tullius Valentinus who had moved eastwards from Augusta Treverorum (Trier), and fortified the town with ditches and embankments. Petillius Cerialis (a survivor of *Legio IX Hispana* in the Boudican rebellion, and soon to be governor and army commander in Britain) was determined to take this ground on his way westwards.

After a three-day march from Mainz he sent his infantry force directly against the settlement, following the road beside the Moselle, but despatched his cavalry in a wide left-flanking move to the south, across higher ground. They divided into two, one part taking a higher route and the other following the contours lower down. The Roman infantry overwhelmed the Treveri, who retreated from Rigodulum into the path of the cavalry as they arrived, probably along the eastern bank of the Feller Bach. 'Mopping up', again – but here with the important element of pre-planning, in anticipation that the enemy would be broken by the infantry and flee into the cavalry's path.

Mons Graupius, AD 83

This battle (unlocated, but in north-east Scotland) was unusual in some ways while conventional in others. The governor of Britain, Gn. Julius Agricola, had advanced up the Scottish east coast while keeping in close touch with his fleet. For what he presumably intended to be his decisive encounter with the resistant Caledonians, Agricola held his legions in reserve and deployed his auxiliaries to form the battle line. A novel feature was the enemy's use of chariots, which had last been encountered in Britain during Julius Caesar's expeditions to the island in the 50s BC, but at Mons Graupius the Roman cavalry quickly sent them packing, and then joined in the infantry mêlée.

> Meanwhile, the *turmae* of cavalry, as the charioteers fled, became entangled in the infantry's battle. And although they had recently caused panic, they were nonetheless hindered by the dense ranks of the enemy and the uneven terrain. The situation was becoming far less favourable for our forces, as they were struggling uphill and being held back by the bodies of the horses. (Tacitus, *Agr.* 36, trans author)



Typical full saddle harness for auxiliary cavalry of the Early Principate. (Drawing © M.C. Bishop)

While the auxiliary foot were dealing with the vanguard of the Caledonians, the latter's main body descended from the hill to join in. Here the Romans did not use their cavalry just for reconnaissance or pursuit:

> But Agricola, suspecting this very thing, had deployed four *alae* of cavalry to confront the advancing enemy, kept in reserve for sudden combat emergencies; and the more fiercely [the Caledonians] charged, the more vigorously he routed and scattered them in flight. Thus, the plan of the Britons turned against them, and, on command from the general, the cavalry *alae*, wheeling around from the front of the combatants, attacked the rear of the enemy's line. Then, indeed, across a broad area, there was a great and dreadful spectacle: pursuing, wounding, capturing and slaughtering the same men as fresh opponents presented themselves…
>
> ...Had not Agricola, who was everywhere at once, deployed strong and mobile cohorts like a hunting net, and sent part of the cavalry to dismount where the terrain was rougher, while ordering the mounted troops to sweep through the more open woodland, some injury would have been sustained due to excessive confidence. (Tacitus, *Agr.* 37, trans author)

Thus, once the Caledonians had been broken, both infantry and cavalry were used in pursuit, but again, with a twist. The implication here may well be that both components of the part-mounted cohorts were working together, with the *equites cohortis* both mounted and dismounted alongside their infantry.

A silver breast-strap junction *phalera* from Xanten. This example bears an inscription naming Plinius; the Elder Pliny is known to have commanded a cavalry unit on the German border. (Photo Wikimedia / public domain)

A copy of Peter Connolly's reconstruction of the 'Celto-Roman' four-horned saddle. (Photo © M.C. Bishop)

Retrospective evidence from Arrian's *Alani* campaign, AD 134

A more conventional deployment of cavalry was recorded in Arrian's *Ektaxis kat'Alanōn* (*Battle Order Against the Alani*), a document which described first a field army's order of march, and then its battlefield deployment (Campbell 2022). Scholars have long debated whether or not this was an account of an actual event. It is known that the Alani were active in Caucasian Albania, Media and Armenia before moving into Cappadocia (Cassius Dio 16.15.1), where Arrian commanded that province's *exercitus Cappadocicus* in *c.*AD 132–136. Some believe that his writing was only a hypothetical scenario rather than an historical account. Regardless or his intent, Arrian provides evidence for one standard way in which auxiliary cavalry were employed by the Romans at that time (see Plate E, I(, and (Plate E, II) for a variation upon the forms.

His description of the marching order of his army illustrates the use of cavalry as scouts, the vanguard, the rearguard and screens on the flanks of the main infantry force. The commander's bodyguard, the *equites singulares*, were in the centre of the column, together with the assembled legionary cavalry: the one provided his defence, the other his communications.

Like many nomadic steppe peoples, including originally the Parthians, the Alani concentrated their effective forces as heavy armoured cavalry and light unarmoured horse-archers. Arrian anticipated that they would use their heavy cavalry in the traditional way and attempt to charge his line, which was centred on his two legions. His plan was to test the principle that would become the conventional wisdom many centuries later: that horses would not charge home against infantry who refused to break.

To that end, the cavalry of the *cohortes equitatae*, which included horse-archers, were to be brigaded together and located behind the centre of the battle line, while the *alae* (by inference) were placed in their traditional location on either flank. The horse-archers were then instructed to shoot over the heads of their infantry into the oncoming Alani, thereby attempting to disorganise them before they even made contact. Without heavy cavalry of his own, Arrian sacrificed the mobility of his horse-archers in order to exploit their 'firepower'.

> The entire cavalry, organized into *alae* and eight contingents of

equites cohortales, was stationed in support of the infantry: two on each wing with the hoplites and archers in front of them, and six positioned in the centre of the phalanx. (Arrian, *Ektaxis kat'Alanōn* 20, trans author)

Copper-alloy formers for saddle-horns, from Newstead; these were attached to a wooden structure under the leather saddle cover. The pieces with base extensions (background) are from rear horns, the foreground pair from front horns. (Photo © M.C. Bishop)

EQUIPMENT: The four-horned saddle

Modern reconstruction and experiment has shown just what a game-changer this saddle could be in terms of horsemanship. Before its adoption, Republican-period cavalry with pad saddles were largely confined to skirmishing and avoiding shock contact, or fighting dismounted. By contrast, the four-horned (or Celto-Roman) saddle – held in place with a harness that prevented it slipping forwards, backwards or to either side, and with the horns or pommels ensuring a secure seat – enabled the rider to move dynamically, reaching out to strike a foe.

The evidence for this type of saddle is now wide-ranging. Representations of it survive, both as reliefs and in the round, but it is the archaeological record that has provided the most detail. Leather saddle covers, preserved in anaerobic conditions at sites like Valkenburg (Netherlands), Carlisle, Vindolanda and Castleford (all in Britain) supply the basic form, while copper-alloy formers for the horns appear to have been fitted under the leather and over a wooden saddle tree (to judge from pieces found *in situ* in the Italian city of Pompeii). Finds of wooden arches from Carlisle and Vindolanda may also derive from the structure of this saddle.

There is some disagreement over the precise way in which the four-horned saddle should be reconstructed (Gresak *et al*. 2018; Watson 2024), although Peter Connolly's initial attempts (Connolly 1986 & 1987; Connolly & Driel-Murray 1991) pointed the way to understanding how this important harness component actually worked. (One detail was that when the rider mounted, his weight tended to draw the horns in more closely around him.)

A wooden artefact from Vindolanda near the centre of Hadrian's Wall, identified as a saddle arch; the two sockets may have been for the attachment of separate horns. (Photo © M.C. Bishop)

THE HIGH AND LATE PRINCIPATE (AD 117–192 and 192–284)

> A cavalry charge is a matter of morale above all. It is identical in its methods, its effects, with the infantry charge. All the conditions to be fulfilled in the charge (walk, trot, gallop, charge, etc.) have a reason, bearing on morale. (Ardant du Picq 1921: 202)

By the end of the 1st century AD, the army was beginning to use irregular units to support the auxiliaries – perhaps the best known being the Mauri, Berber light cavalry from Numidia in North Africa, who rode without saddles and with the simplest neck ropes. These were prominently depicted in action on Trajan's Column (probably because their commander, Lusius Quietus, was a friend and companion of the Emperor Trajan).

At the same time, new types of unit designed to counter the heavy cavalry of potential enemies in the East, as well as from the steppes north of the Danube, were also beginning to appear. For the most part, equipment had changed little from the Early Principate, although both helmets and body armour had evolved. The Weyler-type cavalry helmet had given way first to a simpler pseudo-Attic form, no longer employing a decorative copper-alloy skin over a ferrous core, but instead simply being wrought from copper-alloy sheet. This was followed in the 3rd century by a pseudo-Corinthian type, and both clearly had nostalgic links back to the distant classical past. The use of the two-handed lance (*contus*) by some steppe and Eastern cavalry, coupled with horse armour, as well as their widespread reliance upon horse archery, meant that Roman cavalry began to adopt similar weaponry (alongside increasing the amount of protection for both riders and mounts) together with their more traditional panoply, while adapting their tactics accordingly.

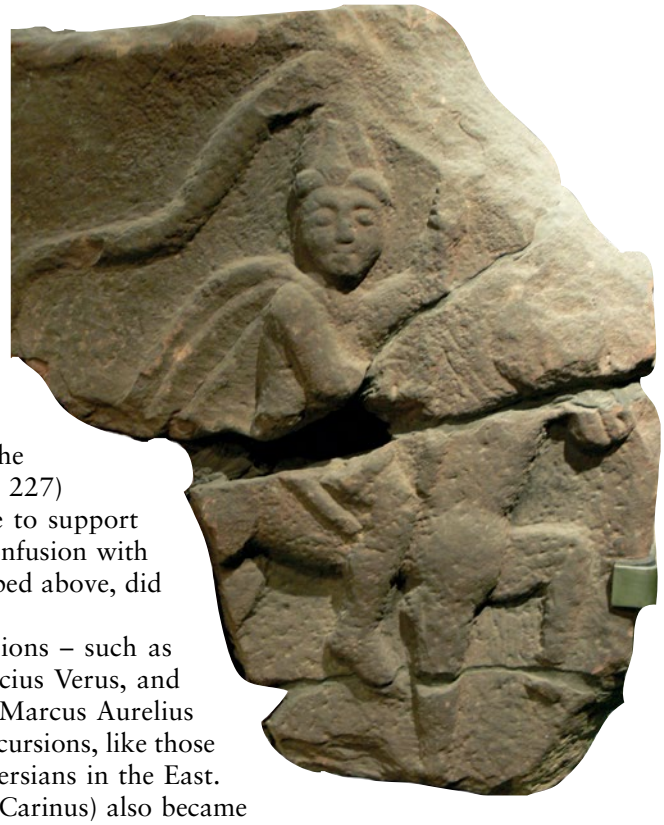
The Early Principate vexillations continued to be used, with cavalry *vexillationes* under Aurelian (r. AD 270–275) forming part of his mobile army. In addition, irregular cavalry *cunei* (literally 'wedges') were first attested in the 3rd century AD on the frontiers, an example being the *Cuneus Frisionum* at Housesteads on Hadrian's Wall (recruited on the northern coast of the modern Netherlands and Germany). Another type of irregular formation of indeterminate size, which had in fact been in use since the 2nd century, was the *numerus* (literally 'unit'). A tombstone from Lyon depicts a heavy cavalryman by the name of Flavius Ingenuus (*CIL* XIII, 1848) from the *Numerus equitum catafractariorum seniorum*, who is shown carrying a *contus*.

Copper-alloy head of a *draco* standard found in the fort at Niederbieber (Germany). In addition to the flapping sound made by the colourful fabric 'windsock' tail attached to the head, there may originally have been a device in the mouth to make it howl or whistle as the wind passed through it. (Photo © M.C. Bishop)

One of the central concepts in Vegetius's 4th-century text was what he termed the *antiqua legio* ('ancient legion'), which he held up as his ideal infantry formation. He constructed this from a variety of sources dating from the Republican to

High Principate periods (up to the death of Commodus), apparently oblivious to the fact that the legion might have changed in structure over the years. This is perhaps most noticeable in his description of legionary cavalry. The *equites legionis* of the Principate seem to have been divided between the centuries rather than organised as a distinct subunit within the legion. Vegetius, however, described 726 cavalry integral to the legion, organised in *turmae* and commanded by *decuriones*, with 132 attached to the first cohort and 66 to each of the other cohorts in his scheme. As Petitjean (2022: 227) has pointed out, there is no epigraphic evidence to support Vegetius's assertion, so it is almost certainly a confusion with much earlier Republican legions which, as described above, did incorporate *turmae* of cavalry.

This was a period of major offensive excursions – such as the Antonine interventions in the East under Lucius Verus, and north of the Danube under Verus's co-emperor, Marcus Aurelius (r. AD 161–180) – and later of major barbarian incursions, like those by the Alemanni in the West and the Sassanid Persians in the East. The Late Principate (the reigns from Pertinax to Carinus) also became a period of renewed civil wars, particularly during the chaotic '3rd century crisis' of *c.*AD 235–284, so cavalry, like the rest of the Roman military, had to meet both external and internal threats.



Broken relief from Chester (Britain) depicting a cavalry *draconarius* standard-bearer holding the *draco* in his left hand. Wearing a conical helmet or cap, he is often presumed to be Sarmatian. (Photo Wolfgang Sauber / Wikimedia CC BV-SA 3.0)

The *hippika gymnasia* peaked in the 3rd century AD, with the introduction (probably during the second half of the 2nd century) of Trojan War-themed teams divided between Greeks, Amazons and Trojans which were identified by distinctive helmet face-masks. Judging from finds of such equipment, this form of training clearly still played an important role for the cavalry of both the *alae* and the *cohortes equitatae*. In fact, some of the major German hoards of *hippika gymnasia* items (from Straubing, Eining and Künzing) date to the time of the Alemannic invasion.

STRATEGIC DEPLOYMENT

The strategic deployment of cavalry continued in much the same fashion as during the Early Principate. However, the location of cavalry units along linear barriers like Hadrian's Wall and the Antonine Wall raises the question of whether they were used in dismounted garrisoning duties. Since these defensive systems appear to have been intended to be manned by the troops based along them, there has long been an assumption that cavalry were indeed employed in this way.

Divine (1969: 182–183) proposes a system for Hadrian's Wall whereby cavalry could be concentrated against attacking forces when needed, with 1,000 horsemen able to reach a point north of the Wall in an hour. However, current thinking is that the Wall garrison was more concerned with low-intensity threats than it was with stopping armies (something it signally failed to do in later years). Nevertheless, the notion of proactive Roman forces meeting enemies before they could reach a frontier persists in some quarters. Certainly, the strategic imperatives on the Wall led to questionable tactical decisions. For example, placing the cavalry fort of Chesters astride

A mid-3rd century oval shield from Dura-Europos, catalogued as Shield II and copied at the time of its excavation by H.J. Gute. The metal boss is missing, exposing the finger-holes above and below the horizontal grip on the interior. The elaborately painted figures enact scenes from the Trojan War. (Drawing © M.C. Bishop)

the Wall, rather than located behind it, put three of its four main gates north of the frontier and only one to the south of it, which was less than ideal if an attack came from that direction. A hasty modification added two single-portal gates immediately south of the Wall to even things out.

This is generally held to be the period in which a mobile reserve to reinforce and to some extent relieve the frontier armies began to develop with the *comitatenses* of Gallienus (r. AD 253–268), whose cavalry were commanded by the future Emperor Aurelian. Syvanne (2019: 303) has suggested that the *Stablesiani*, *Promoti* and *Dalmatae* cavalry units of the Dominate were established under Gallienus, and thinks it likely that he may also have been responsible for creating the *Scholae* and *Scutarii*.

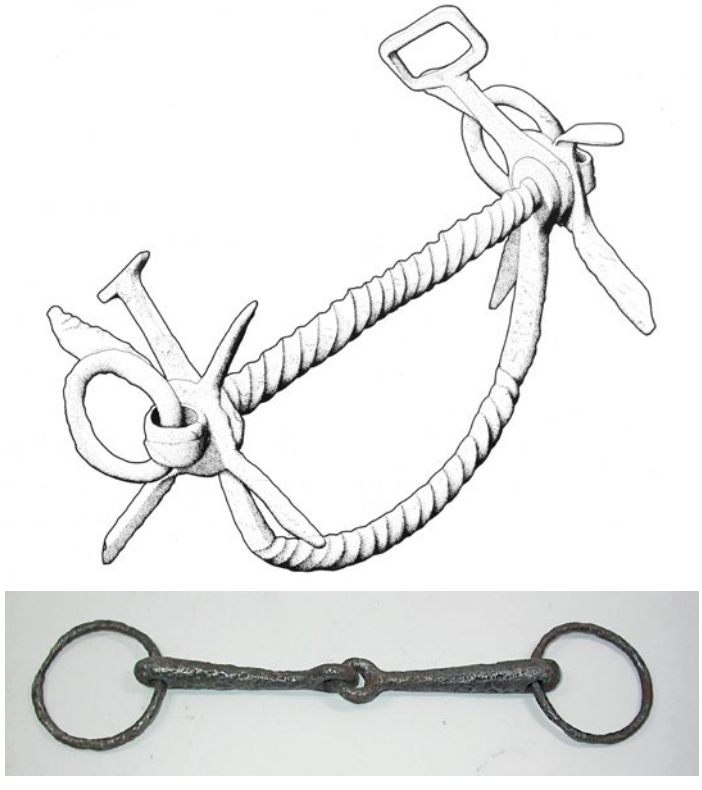
TACTICAL DEPLOYMENT

Tactically, the cavalry's character nominally appears to have been little changed since the Early Principate. At least, this is the implication of the continued existence of the *hippika gymnasia*, revealed by finds of 'sports' armour (and in particular face-mask helmets) dated from well into the first half of the 3rd century AD. However, during the 2nd and 3rd centuries the rise of *contus*-armed lancers (including heavily armoured *cataphractarii* and *clibanarii*), and horse-archers, makes it very unlikely that cavalry were still being utilised everywhere in exactly the same way as described in Arrian's works discussed above. These new types of cavalry tended to be concentrated in the East (matching the troops they faced there) and were rarer, although not unknown, in the West. Thus the continued existence of the *hippika gymnasia* might not necessarily have been due to the innate conservatism of Roman military institutions; doubtless light javelin-armed cavalry continued to be used in much the same way as before, but now they were only part of the mix rather than the main component. The first heavy armoured unit identified in an inscription (*CIL* XI 5632) was the ethnically-merged *Ala I Gallorum et Pannoniorum catafracta*, operating in Moesia (the province stretching across the Balkans immediately south of the Danube) against the Sarmatians in the mid-2nd century.

One unit based in the Syrian city of Dura-Europos, on the right bank of the Euphrates, in the late 2nd and early 3rd centuries, has much to tell us about Roman cavalry in the closing decades of the Principate. The double-strength *Cohors XX Palmyrenorum* was a mixed unit that included ten centuries of infantry (*milites*), five *turmae* of horsemen (*equites*), and two *turmae* of camel-riders (*dromedarii*). Its city of origin, Palmyra, boasted an eclectic mix of Hellenistic Greek, Parthian and Roman traditions and equipment. Nevertheless, the cohort's operation and structure were modelled on the Roman tradition; its documentation (some of which survives from the first decades of the 3rd century) was recorded in Latin; and its troops used Romanised names. Strength reports suggest that its *centuriae* and *turmae* were at times over strength, probably because the unit was on a war footing. Units underwent an annual discharge cycle, and stopping

this temporarily while recruitment continued facilitated overmanning.

Quite how *dromedarii* were used is largely a matter of speculation (Dąbrowa 1991). Livy (37.40.12) mentioned that Arab *dromedarii* fought as archers, and that they also had unusually long swords. We have seen that the Parthians had used camels for resupply of their missile troops at the battle of Carrhae, so it is conceivable that the Romans used them in the same way. Archery equipment, including fletched arrows, was found at Dura, although *Cohors XX Palmyrenorum* was not specifically a unit of *sagittarii*. Vegetius advises (*DRM* 1.15–16) that a proportion of all troops should be trained in archery, and all of them in slinging. Nevertheless, Dąbrowa proposes that camel-riders were mainly used for mundane policing tasks rather than set-piece combat.



(Top) Ferrous snaffle bit from Newstead, with rein rings at the ends of the mouthpiece. (Below) Simple snaffle bit with jointed mouthpiece, found on the Kops Plateau, Nijmegen. (Drawing © M.C. Bishop; photo Museum het Valkof / public domain/ Mark 1.0)

NOTABLE ACTIONS

Despite the fact that the iconography of Trajan's Column and that of Marcus Aurelius (completed AD 196) dominates the modern impression of the Dacian and Marcomannic Wars, scarcely anything is known about those actual conflicts, and we thus have very little by way of tactical information. However, the defeat of the Iazyges in AD 175 during the Marcomannic Wars brought about an arrangement whereby 8,000 of them were recruited into

(Left) Ferrous curb bit. The high upper central 'port' caused harsh pressure to the roof of the mouth. (Right) Copper-alloy *psalion* or hackamore, with a lozenge-shaped central section similar to some depicted on cavalry tombstones. (Both photos Metropolitan Museum of Art, NY / public domain)

At the battle of Nisibis, AD 217, Roman light infantry held up an advance by Parthian cavalry, and scattered caltrops behind their eventual retreat, with some effect. These ferrous examples from Hadrian's Wall, now in the Clayton Collection, could have come from Chesters, Carrawburgh or Housesteads – all fort sites owned by the Clayton estate. (Photo © M.C. Bishop)

Roman service, 5,500 of them being sent to Britain (Cassius Dio 72.16). Both a *Numerus equitum Sarmatarum Bremetennacensium* (*RIB* 583) and an *Ala Sarmatarum* (*RIB* 594–5) are recorded from Ribchester in Lancashire. But although it is assumed that these were heavy cavalry, transferred at a time of need for reinforcement of the island's garrison, nothing is known of how they were used in battle in Britain, if at all.

Nisibis, AD 217

During the brief reign of Macrinus (AD 217–218), he met a Parthian army in battle near Nisibis (southern Turkey). Macrinus, a former Praetorian Prefect, was no military genius, but he confronted the Parthians more imaginatively than the experienced Republican general Crassus had done.

He placed his cavalry on the flanks of his central infantry force, as was customary, with his Numidian light horse on the extremities. The Parthian armoured cavalry and horse-archers were effectively neutralised by the Roman light infantry (who then scattered caltrops in the path of the enemy's horses and camels when they fell back), and the first day of fighting was inconclusive. On the second day, when the Parthians tried to outflank the Romans, the latter simply extended their battle line, still protected on the flanks by their cavalry, thereby frustrating the Parthian attack. Both sides suffered heavy losses, but the stalemate was subsequently ended by Macrinus buying off King Artabanus IV with 200 million *sestertii*.

F

ALA QUINGENARIA, *c.*AD 150–200

The *ala quingenaria* was the core cavalry unit of the army of the Principate. Since three men and their mounts occupied each of the ten pairs of rooms in a stable-barracks block, it is reasonable to suppose that this is how the unit's 30-strong *turmae* were deployed in the field (and Arrian's *Technē taktikē* supports the preponderance of the column formation in their movements – see Plate D). Fifteen *turmae* each of 30 men would total an *ala* combat strength of about 450 men (if the *turma's* four junior officers – *decurio, signifer, duplicarius* and *sesquiplicarius* – were counted inclusively, or 510 if they were additional). By or during the Flavian period (AD 69–96) a minority of quasi-'double strength' *alae milliariae* were added to the army, each with 24 *turmae* totalling perhaps 720 to 816 men depending on how officers were counted. The cavalrymen in the insets are shown in equipment from the second half of the 2nd century AD.

Inset 1: *Praefectus* and *vexillarius*

At the head of his unit rides its commander (left), followed by the junior officer carrying the *vexillum* standard of the *ala*; we have also chosen to include a soldier-servant carrying the prefect's shield slung to his saddle. The prefect's armour echoes his status: a gilded helmet (to which we have added a yellow plume); a silvered 'muscle cuirass' worn over a *subarmalis* with protective hanging *pteryges* straps; and a narrow purple-red command sash around the torso. The standard-bearer's prestigious appointment pays him enough to have his scale body-armour tinned or silvered. By this period iconographic sources begin to show not only officers but also at least some troopers wearing the *spatha* slung at the left instead of the right hip.

Inset 2: *Decurio* and *draconarius*

This gives an impression of a *decurio* commanding one of the *turmae*, accompanied by his *draconarius* standard-bearer. This officer, again, has the means to sport a (literally) flashy scale armour with individual scales alternately of bright-polished brass and silvered. The *draco* 'windsock' type of standard, believed to have been adopted from the Sarmatians, was certainly in use by Roman cavalry by the second quarter of the 2nd century AD and possibly earlier.

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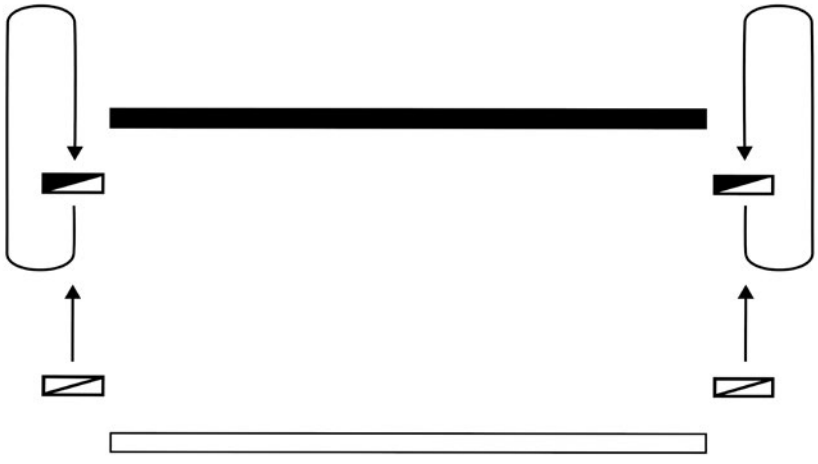


The battle of Immae, AD 272, showing how the Roman (top) and Palmyrene cavalry charged each other. The Roman army was commanded by the experienced Emperor Aurelian. Just before contact his cavalry turned tail and apparently fled, allowing the heavier Palmyrene cataphracts to tire themselves out in pursuit. At a perfectly judged moment the Roman riders halted and reversed their retreat, counter-attacking the Palnyrenes with complete success. (Sketch map © M.C. Bishop)

Immae and Emesa, AD 272

The first of these battles saw an important defeat of a force loyal to the Empress Zenobia, under whom Palmyra had seceded from the Roman Empire. The oasis city of Palmyra was a rich trading hub in the Syrian desert, and its military reflected the Hellenistic, Parthian and Roman influences attracted by its widespread economic activity. Led by her general Zabdas, Zenobia's Palmyrene force met the Romans under the Emperor Aurelian at Immae (near Antioch, modern Turkey).

The charge of the Palmyrene heavy cataphracts was met by a counter-charge of the Roman cavalry who, at the last minute, turned tail and fled, pursued by the heavier (and slower) Palmyrenes. When the Palmyrenes began to tire the Romans simply turned about and attacked them, with devastating effect. Feigned flight was a well-known steppe cavalry tactic, sometimes referred to as a 'Scythian' manoeuvre (Rance 2015b: 1000).

Upper relief sculpture on a tombstone from Worms (Germany), commemorating Valerius Maxantius of a *Numerus catafractariorum*. He holds the *contus* in both hands (the left is barely visible now), and has a rounded – perhaps circular – shield on his left. (Photo © M.C. Bishop)

Aurelian was obviously pleased with this success, since he tried to repeat it in a subsequent battle at Emesa, also against Zabdas, but the latter did not fall for the same ruse twice. The Roman cavalry suffered badly, and the infantry was needed to save the day and defeat the Palmyrene cavalry. The multinational composition of Aurelian's army was to prove characteristic in later generations:

> He opposed them with the Dalmatian cavalry, the Moesians and Pannonians, and the Celtic legions of Noricum and Raetia, and besides these the choicest of the imperial regiment selected man by man, the Mauritanian horse, the Tyaneans, the Mesopotamians,

the Syrians, the Phoenicians and the Palestinians, all men of acknowledged valour; the Palestinians besides other arms [wielded] clubs and staves. (Zosimus, *New History* 1.52)

EQUIPMENT: The *contus*

The *hasta* or thrusting spear was used single-handedly and usually overarm. It is depicted on cavalry tombstones of the Principate, and mentioned by Arrian in his description of the *touloutegon* manoeuvre. It does appear to have been used underarm on occasion, if the Adamclisi *metopes* are to be believed, but in neither length nor function was it a lance in the medieval or post-medieval sense.

Part of a tombstone from Lyon (France), probably dating from *c.*AD 250–300, which names Flavius Ingenuus. A *centenarius* in the *Numerus equitum catafractariorum seniorum*, he is depicted holding a *contus,* and wearing pronounced body armour and a crested, possibly 'ridge'-type helmet. (Photo Arnaud Fafournoux / Wikimedia CC BY-SA 3.0)

The two-handed lance (*contus*), like so much other Roman military equipment, was borrowed from Rome's opponents. Its origins lay in hunting, being used overarm by Parthian (and probably other steppe) noblemen, with a noose at the end to capture animals, and later with a spearhead to kill them. It was only a small step to its adoption for combat and then, in the 2nd century AD, to the appearance of units of *contarii* (literally 'lancers') in the Roman army. A *contarius* of the Canninefates (a unit originally raised in the lower Rhineland) is depicted on a tombstone from Tipasa in Mauretania holding a *contus*, unarmoured and on a horse similarly unprotected. When the *contus* was combined with body armour and horse armour, units of *cataphractarii* were created, some of them being colloquially known as *clibanarii* ('oven men') from the word *clibanus*, meaning a portable oven. (We repeat that such equipment is not shown on the lancer's gravestone from Tipasa in the Algerian desert.)

No certain examples of the *contus* have been identified in the archaeological record, but a graffito from Dura-Europos shows a fully armoured cavalryman on an armoured horse wielding a lance two-handed. However, given that the city changed hands between Romans and Sassanid Persians more than once, the cataphract depicted could have belonged to either side, so alike was their equipment by then. Connolly reconstructed a Macedonian cavalry *sarissa* 4.87m (15 ft 11 ins) in length (Connolly 2000: 107), on the grounds that this was the maximum length that could be wielded on horseback, and the same must hold true for the *contus*. The shaft diameter would have to have been a minimum of 20mm (0.78 in), if the surviving cavalry *sarissa* heads are any guide (Connolly 2000: 103). There are very few spearheads from Dura-Europos, where *cataphractarii* are attested, probably because iron does not survive well from that site. The *Strategikon* attributed to Maurikios described how cavalry lances in the Byzantine period were equipped with pennons, which might be removed for action, so it is possible that this was also true earlier.

THE DOMINATE (AD 284–476)

> There are many instructions regarding cavalry; but since this part of the military has advanced through training, the type of weapons and the nobility of the horses, I think nothing need be gathered from books, since practical knowledge is sufficient. (Vegetius, *DRM* 3.26.24)

By the time Flavius Vegetius Renatus came to compile his military manual, supposedly to advise a Late Roman emperor, he made a point of explaining that he need not go into the cavalry in too much depth because, if anything, more focus was needed on Rome's former great strength: her infantry (which is why his *antiqua legio* was so important to him).

It is a telling observation, since it shows how far the Roman employment of cavalry had changed since the days of the Republic, when they were very much secondary to the heavy infantry of the legions. As ever, since those times Rome had been forced to adapt its tactics and equipment to match an ever-changing cast of foes, most recently including Persian heavy cavalry. Archaeology reveals, from *c.*AD 280 and during the 4th century, a new broad category of 'ridge'-helmets inspired by Iranian models. Fine examples associated with the cavalry are classified as 'Berkasovo', with quadripartite skulls and a raised central fore-and-aft ridge.

As mentioned above, the continued use of the *hippika gymnasia* and its distinctive equipment in the Late Principate implies that the tactics for which it was a training exercise were still in use. If this inference is correct, then it may equally be true that the disappearance of this equipment in regular use by Roman cavalry marks a shift in training, and thus tactics, under (or even before) the Dominate instituted by Diocletian in AD 284. Although there have been finds of Roman helmet masks in both West and East dating from the Early Principate, associated by some scholars either with parade occasions or specifically with standard-bearers, by the 4th century AD masked combat helmets, again copied from Persian heavy cavalry, had also proliferated beside the 'ridge' types (see their mention below, in the Emperor Julian's panegyric to Constantius II.)

At some date yet to be determined, the four-horned saddle seems to have fallen out of use among cavalry, to judge from the rarity of representations of it in contemporary iconography. The *scordiscus militaris* included in the *Price Edict* of Diocletian (10.1.2) may be identifiable with the Celto-Roman saddle (the Scordisci were a Celtic tribe from the Balkans), but steppe forms of saddle were to become more common as external peoples became assimilated into the empire during the migrations of the Late Roman period. The question of the date of the arrival of the stirrup, generally held to have been copied from Eurasian peoples in the 5th century AD, has been questioned (on the basis of the *draconarius* relief from Chester, among others)

Relief of a Dominate-period horseman from Gamzigrad (Serbia – in ancient Dacia Ripensis), which was developed as a royal centre by the Emperor Galerius (r. AD 305–311) after winning victories over the Sassanid Persians. Weathering has destroyed much of the detail, but the rider wears the common Pannonian 'pillbox' military cap of the period. At left an infantryman is depicted, wearing a substantial helmet with cheek-and-chin guards, and a long belted garment (possibly mail, or simply a tunic) showing a caped effect; he has a sword at his left hip, and carries a heavy spear and large oval shield. (Photo Institute for the Study of the Ancient World / Wikimedia CC BY-S 2.0)

by Gawroński (2018: Fig.147). The Byzantine *Strategikon* has been argued as the first literary reference to stirrups in use by cavalry (by which time the four-horned saddle was long gone).

Vexillations now became permanent features of the mobile armies in both the West and East, with *vexillationes palatinae* (10 in the West, 14 in the East) and *comitatenses* (64 in the West, 29 in the East) being recorded in the *Notitia Dignitatum*. They also continued to be found among the frontier troops. The *Notitia* lists 83 *alae* among the *limitanei* (divided 73/ 10 between East and West), but only two *cohortes equitatae* now appear, possibly because their cavalry components were absorbed into *alae* (Rance 2015a: 181). Legions were divided between more than one location, and legionary cavalry became separate units as *equites promoti*, signalling a change in their role. With 49 *cunei* recorded by the *Notitia*, the majority of them among the *limitanei*, it is clear that irregular cavalry were still a significant component.

The movement of peoples towards the boundaries of the Roman Empire, especially along the northern frontiers, intensified in this period. Driven by the advancing Huns, the Goths in particular were to have a notable effect, not only in their defeat of Valens at Hadrianopolis (AD 378), but also in later years by contributing directly to the Roman army in its defence of the empire.

A Dominate-period 'ridge' helmet of Berkasovo type, found at Deurne (Netherlands) and dated from associated coins to the mid-4th century AD. Only small parts of the iron core survive, but the gilded silver sheathing of the skull, nasal, cheek- and neck-guards remain in remarkable condition. This particular Deurne-Berkasovo example bears an inscription naming the *Equites Stablesiani*, a category of cavalry units of which the *Notitia Dignitatum* (*c.*AD 400) mentions eight in the West and seven in the East. (Photo Michiel / Wikimedia CC BY-SA 2.0)

Petitjean (2019: 15) observes that the debt owed to Late Roman cavalry tactics by the Byzantine manuals may have been underestimated, although Rance (2015a:179) is less sure. Nevertheless, the *Strategikon* provides an engaging vignette of heavy cavalry riding into action, which was presumably as true of the Dominate as of the Byzantine period:

> Likewise, when the ranks are tightly packed, which should mainly be on the side while on the march if they wish to remain in close order, when the javelins begin to be thrown the command will be given: 'charge!', and the decarchs and pentarchs will turn to the front, covering the heads and necks of their horses with their shields, carrying their spears on their shoulders, just as the 'red riders' are accustomed to carry them. They will protect themselves with their shields and proceed in formation, advancing slowly, with no haste, so that the ranks do not break due to speed before they come to close combat, which is very dangerous. Meanwhile, the archers will shoot their missiles from the rear. (*Strategikon* 3.5, trans author)

The possibility that the organisation of Byzantine *tagmata*, as detailed in the *Strategikon*, reflects that of *numeri* of the Dominate cannot be discounted, and it is notable that a *tagma* of 310 men deployed in files of ten in three adjacent columns. The author of the document details how, in open order,

it should be possible for every man to turn his horse around easily. Then, when nearing the enemy, the two outer columns moved into close order, before finally closing ranks from the rear (*Strategikon* 3.2–4). Interestingly, the manuscripts preserve the fact that the commands are given in Latin, not Greek (and that had always been the case for the Roman army in the Greek-speaking East). Moreover, the admonition of the herald to the troops (in late Latin) would not be out of place to any Roman cavalrymen:

> Silence. Let no one fall behind, nor advance ahead of the standard, whether attacking or withdrawing. Observe the standard: a soldier follows it. Such is the duty of the mature soldier. If, however, you desert the standard, you will not prevail thus. The soldier must keep his place in the file, protect the standard and yourself; and you, standard-bearer, whether you fight or pursue the enemy or withdraw, do not get carried away, so as not to break the file. (*Strategikon* 3.5, trans author)

STRATEGIC DEPLOYMENT

Changes that had begun in the 3rd century AD were now consolidated under the Dominate, with a clear divide opened up between the *limitanei* located around the periphery of the empire, and the mobile field armies of the *comitatenses* based within it.

By and large the *limitanei* continued doing what they had always done, namely local policing and patrol duties. There has been much debate over whether the Romans practised a form of defence in depth, particularly in the East. Such arguments are inevitably informed by later – and even in some cases, modern – examples. They lack hard evidence when compared with earlier garrisoning policies in frontier zones like Hadrian's Wall and the Antonine Wall, where linear border fortifications were frequently

***COHORS EQUITATA MILLIARIA*, c.AD 250**

The introduction of quasi-'double-size' auxiliary cohorts during the later 1st century AD included many whose recorded titles do not include the part-mounted designation *equitatae*. However, a crude survey of variously recorded unit titles might suggest that there were at least nine of the latter in the West by AD 200, and only a couple fewer during the 3rd century. In the East six may be attested by AD 200, plus five more additionally designated as archers. During the 3rd century the former seem to have maintained their number, but *cohortes equitatae milliaria sagittariorum* in the East may have dwindled to a single unit (though their function must have passed to other units).

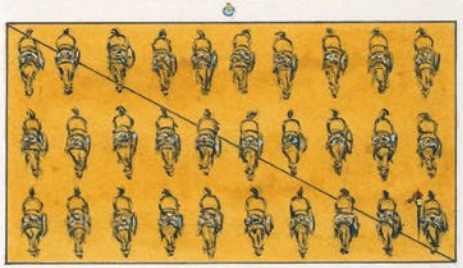
This schematic represents a unit totalling some 240 horse and 800 foot, drawn up in a speculative but logical formation for parade rather than battle. The eight 30-man mounted *turmae* (dark yellow blocks, *draco* standards) form two equal flanking columns. Between these in the two central columns are the ten 80-man infantry *centuriae* (red-brown blocks, *signum* standards). The figures are illustrated with equipment dating from the mid-3rd century.

Inset 1: *Eques*

This trooper of one of the *turmae* is in the act of drawing a javelin, head-down, from a saddle-quiver. He wears one of the two-part helmets with partial face masks showing a T-shaped cut-out, which may have originated as dual-purpose battle and 'sports' helmets with small masks inserted when required. From perhaps the 2nd century, both mail and scale armours sometimes incorporated pairs of small, decorated fastening-plates set into the breast. Sources show long-sleeved tunics, presumably in unbleached off-white, decorated with *clavii* stripes on the sleeves and body, and embroidered appliqué *orbiculi* or other decorative shapes on the shoulders and skirts. The *spatha* sword was now slung on the left hip from a broad baldric, although waist belts were still seen. There is evidence that shields might be elaborately painted with contrasting patterns on both the face and the interior.

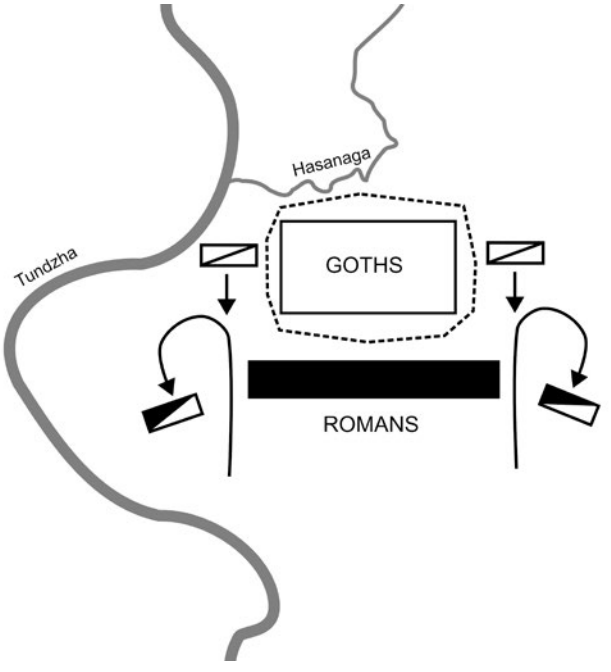
Inset 2: *Auxiliarius*

This auxiliary soldier of one of the cohort's *centuriae* is similarly dressed under his mail armour; trousers now reached to the ankle, and *caligae* sandals had been replaced with laced shoes or short boots. He has a copper-alloy helmet of Niederbieber type, with broad cheek-guards meeting over the chin; the skull crossbars are still present, but are now part of the factory design rather than retro-fitted. He carries spare javelins behind an oval shield with complex painted decoration showing military and other deities.



decurio centurio signum vexillum draco

praefectus



The battle of Hadrianopolis in AD 378 still saw cavalry being deployed on the wings. The Emperor Valens advanced over-hastily without waiting for promised reinforcements. His left-wing cavalry were surprised and then routed by Visigothic cavalry, which exposed his left flank to destruction by Gothic horsemen and infantry. His right-wing cavalry fled, and thereafter the Roman army crumbled, with Valens himself counted among the thousands of dead. According to Ammianus Marcellinus, the failure of the left-wing cavalry marked the beginning of the worst disaster of Roman arms since Hannibal's victory at Cannae nearly 600 years before. (Sketch map © M.C. Bishop)

accompanied by both advanced outpost and interior hinterland forts, thus belying the tired old 'edge of empire' cliché.

The papyrus archive of Flavius Abinnaeus, the commander (*praefectus alae*) of the *Ala V Praelectorum* based in the fort of Dionysias in Egypt around the middle of the 4th century AD, gives a useful insight into what his unit was doing. Little of this had anything to do with combat, although dealing with brigands and smugglers must have added some occasional excitement above and beyond the escorting of dignitaries, collection of taxes and supervision of recruitment routinely expected of Abinnaeus and his troopers.

TACTICAL DEPLOYMENT

The practice of placing cavalry on the wings of a body of infantry was a tradition that continued into the Dominate. To some extent this runs counter to the impression given by Vegetius, but it is clear that he was exaggerating for effect. Recalling the Republican preference for dismounted combat, along with Agricola's later use of dismounted horsemen, it is interesting that the Late Roman period also saw troopers leaving their mounts to fight on foot on a number of occasions (Rance 2015b: 999–1000).

The tombstone from Worms (Germany) of Valerius Maxantius (*CIL* XIII, 6238) depicts a cavalryman with a *contus*. Serving in a *numerus catafractariorum*, he rides an unarmoured horse, and his memorial dates to the latter part of the 3rd century or first half of the 4th (his inscription is that of a pagan). The equipment of cavalry in the Dominate depended upon their roles. The heaviest cavalry would have employed horse armour, including chamfrons and eye defences (visible on the Dura-Europos graffito) similar to those used previously in the *hippika gymnasia* (although none have survived from the Dominate period). As for the men themselves, in his earlier panegyric for Constantius II, the man who would become his predecessor, Julian (r. AD 361–363) purred:

> Your cavalry was almost unlimited in numbers and they all sat their horses like statues, while their limbs were fitted with armour that followed closely the outline of the human form. It covers the arms from wrist to elbow and thence to the shoulder, while a coat of mail protects the shoulders, back and breast. The head and face are covered by a metal mask which makes its wearer look like a glittering statue, for not even the thighs and legs and the very ends of the feet lack this armour. It is attached to the cuirass by fine chain-armour like a web, so that no part of the body is visible and uncovered, for this woven covering protects the hands as well, and is so flexible that the wearers can bend even their fingers. (Julian, *Orations* 1.37, trans Wright)

This passage also reflects the moral effect of the heavily armoured cavalrymen's appearance, and it has been suggested that this ancient example of 'shock and awe' was every bit as dependant upon such an effect as actual physical contact with an enemy, and perhaps even more so (Rance 2015b: 996).

So far as it is possible to tell, the horsemen of the *limitanei* were less spectacularly equipped, particularly in regions where enemies were themselves unlikely to have heavily armoured cavalry. Nevertheless, as James has noted, some of the large armour scales found in the Waffenmagazin at Carnuntum may have belonged to horse trappers, although unfortunately the date of the deposit is unclear.

Top and side views of one of the two almost intact armoured horse trappers found at Dura-Europos; this is the example made of copper-alloy scales, with both the coarse fabric backing and leather edging surviving. (Photos Yale University Art Galley)

NOTABLE ACTIONS

The Milvian Bridge, AD 312

Victory in this battle outside Rome was the key to Constantine's securing of sole power. His cavalry were to play an important role at the beginning of the action, which Constantine's rival Maxentius fought with the Tiber at his back. Constantine stationed most of his cavalry on the left wing, with only a small contingent to guard a road on the right. Leading his horsemen in a charge against those of Maxentius, he swiftly routed his opponents, which set the tone for what followed. This reminds us just how much the Roman use of cavalry had changed over the centuries. From the *alae* of the Early Principate, brought in after the infantry battle to mop up a fleeing enemy, to a force which opened a battle and effectively carried the day, is a considerable development, ultimately made possible by the change in cavalry arms and armour and the resulting tactical innovations.

Mursa, AD 351

A concentration of cavalry on one flank only may have been significant in an action which took place several decades later. The future Emperor Julian described the battle of Mursa in modern Croatia (often known as Mursa Major), fought between the army of his predecessor Constantius II (r. AD 337–361) and that of the usurper Magnentius. The former's cavalry were drawn up solely on their left wing, while the latter's were divided between both flanks, with their own left cramped against a riverbank (see Plate H). Julian wrote in one of his *Orations* addressed to Constantius:

> So [your] cavalry charged again as though the battle had only just begun, and gave a wonderful display of daring and heroism. For some hurled themselves full on the enemy's swords, or seized the enemy's shields [;] others, when their horses were wounded and the riders thrown, at once transformed themselves into infantrymen. The usurper's army meanwhile did the same and pressed our infantry

Leather horse chamfron patterned with copper-alloy studs, found at Newstead and dated to the 1st century AD. We may presume that protection like this was used in the *hippika gymnasia* rather than in combat. (Photo © M.C. Bishop)

> hard. Neither side gained the advantage, until the cuirassiers [sic] by their archery [–] aided by the remaining force of cavalry, who spurred on their horses to the charge [–] had begun to inflict great loss on the enemy, and by main force to drive the whole army before them. (Julian, *Orations* 1.36, trans Wright)

Strasbourg, AD 357

In this action Julian and his army fought against the Alemanni. Here, the Roman cavalry of all types were concentrated on the right wing of the army, facing the light cavalry of Chnodomar, which he had interspersed with light infantry in a familiar tactic. Although it might seem that the Germans were outmatched, the light infantry accompanying their cavalry wreaked havoc on the Roman cataphracts when they clashed, darting in to stab from close up, and forced them to retreat to behind their main battle line. Ammianus (who was present) notes:

> Now that had happened for the reason that while the order of their lines was being re-established, the cavalry in mail armour [–] seeing their leader slightly wounded, and one of their companions slipping over the neck of his horse, which had collapsed under the weight of his armour [–] scattered in whatever direction they could; the cavalry would have caused complete confusion by trampling the infantry underfoot, had not the latter, who were packed close together and intertwined one with the other, held their ground without stirring. (Ammianus Marcellinus 16.12.38, trans Rolfe)

It is difficult to escape the conclusion that Julian won the battle of Strasbourg despite his heavy cavalry, not because of them.

Hadrianopolis (Adrianople), AD 378

In Roman eyes, the low point for their cavalry (a view that seems to have been pervasive) was their rout on the left wing during this disastrous battle against the Goths supported by other tribal forces, which left the Roman infantry fatally exposed (Charles 2008). Advancing towards the wagons of the Goths in support of their infantry, the left-wing cavalry were surprised by a force of returning Visigothic cavalry and put to flight. This left the Roman infantry on the left flank vulnerable, and, assailed by both Gothic infantry and cavalry, they broke, by which point the cavalry on the right flank had also departed. Ammianus thought it the worst Roman battlefield disaster since Cannae nearly 600 years before; the dead were estimated at two-thirds of the Roman army present, including the Emperor Valens himself (Ammianus Marcellinus 31.13.18).

EQUIPMENT: Horse armour

By the Late Roman period, 'cuirass' heavy body armour had become so closely associated with cataphracts that the terms *lorica* and *kataphracta / catafracta* are used interchangeably for it by Vegetius. Elements of horse armour had also been present in the *hippika gymnasia* under the Principate, most notably the chamfron to protect the horse's face during the various episodes of dummy missile-throwing.

Copper-alloy eyeguard from a leather chamfron, found at Lith in the Netherlands. (Photo National Museum of Antiquites, Leiden/ CC0 1.0)

Horses wearing scale body armour were depicted on Trajan's Column, representing steppe peoples such as the Iazyges or Sarmatians. Tacitus described the vulnerability of such heavily armoured horsemen in certain circumstances – as when the Sarmatian Roxolani crossed the Danube in AD 68 and, getting themselves bogged down after a thaw, were hacked to pieces by Roman legionaries (*Hist.* 1.79). Nevertheless, the Romans adopted horse-armour for some heavy cavalry during the 2nd century AD, earning these the nickname *clibanarii* or 'oven men'. Confusingly, the terms *cataphractarii* and *clibanarii* may be used interchangeably in some ancient sources – and sometimes even together, as in a reference from Bithynia on Turkey's Black Sea coast to a *Vexillatio equitum cataphractorum clibaniorum* (*AE* 1984, 825). While scholars still debate the specific employment of these designations, some do suggest that only *clibanarii* used armoured horses.

Near-complete examples of horse body armour (as well as many fragments) were recovered during excavations at Dura-Europos, destroyed during a Sassanid Persian attack on this Roman garrison city in the mid-3rd century AD. The finds consisted of metal (copper-alloy or ferrous) scales sewn to fabric backings and edged with leather. An opening was left in the top centre for the saddle (suggesting that the armour was worn over the harness straps), with leather loops to attach to the rear saddle-horns. It is unclear whether the most famous Dura graffito, incised into a brick from Tower 17, was intended to depict a Roman or a Persian warrior. However, it shows one of these *clibanarii* charging into action with the *contus*, and depicts a full armoured trapper complete with neck and head protection.

Decorated copper-alloy, three-piece chamfron from Straubing (Germany), probably used in the *hippika gymnasia*. It has integral pierced eye-guards, and the central embossed armoured figure represents the war-god Mars. (Photo Wolfgang Sauber/ Wikimedia CC BY-SA 3.0)

Under the Dominate, military arms production was concentrated at specific sites by type, and *fabricae clibanariae* were recorded in the *Notitia Dignitatum* at Antioch, Caesarea and Nicomedia in the East, and Augustodunum (Autun, eastern France) in the West (James 1988: 261).

CONCLUSIONS

Roman cavalrymen were always elite members of society, albeit in different ways in different periods. The first *equites* had to be wealthy to be able to afford the ownership and upkeep of a horse, and this ultimately led to them comprising their own social class one step below the nobility of the Senate. Nevertheless, their social prominence was not related to their performance on the battlefield.

Interaction with other Mediterranean cultures, notably during the Punic and Macedonian Wars, and also when opposing Celtic and Germanic peoples, brought some major changes to the Roman army – in equipment, and the nature and duration of the deployment of armies, but not really in the tactics employed. In a mirror image of what Vegetius was later to complain about centuries later, infantry were the chief focus of Roman military thinking and cavalry always an afterthought. Reconnaissance, screening, skirmishing on the flanks and the pursuit of broken enemy forces were their most significant

H

BATTLE OF MURSA; CROATIA, AD 351

The death of Constantine the Great in AD 337 had been followed by prolonged rivalry between his three sons. By AD 350 the surviving Constans was ruling the West and Constantius II the East, where he had been preoccupied by war against Persia. In that year Constans was deposed and killed by his usurping general Magnentius, who subsequently marched eastwards with a multinational army of perhaps 36,000 men. Constantius moved to meet him in the Balkans with reportedly nearly twice that number, and in September 351 the arrival of his vanguard forced Magnentius to lift his siege of Mursa, a crossing-point on the river Drava in Pannonia (modern Croatia).

Most of Magnentius's army withdrew north-westwards from the outskirts to form a line running roughly south-westwards from the riverbank, but a small force remained in the ruined amphitheatre outside the south-west corner of the city walls. As Constantius's columns swung around the south of the city, this force attempted a cavalry ambush on its rearguard (the type of manoeuvre that Arrian had described as a 'dash from concealment'), but without success. The two armies then faced each other, with the difference that Magnentius divided his cavalry between both his left and right flanks, while Constantius concentrated his entire and superior mounted strength, comprising horse-archers and heavy *catafractarii* and *clibanarii*, on his own left, leaving infantry to anchor his right to the river. After the battle opened the Constantian cavalry began to fold the outnumbered Magnentian right-wing cavalry back on itself, while Magnentius's cramped left-wing cavalry were unable to intervene. Outflanked from its right, the usurper's army eventually collapsed and he suffered a massive defeat, but not before the prolonged attritional fighting inflicted equivalently heavy losses on the Constantians. This Pyrrhic victory was to have serious consequences, weakening Eastern Rome's ability to deal with subsequent external threats.

Inset 1: Light cavalry mounted archer

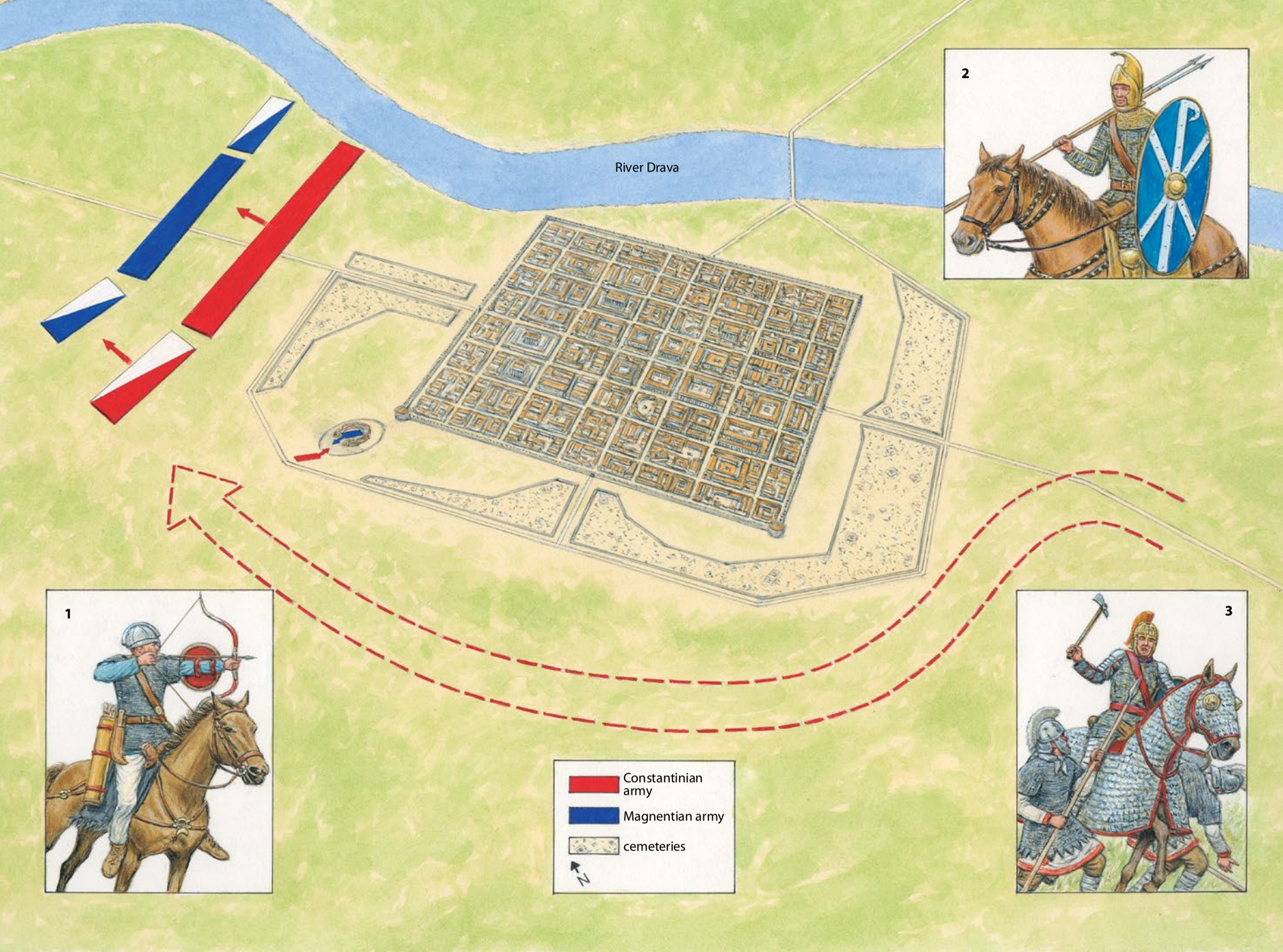
Although there were some exceptions from Spain and the Balkans, historically Rome recruited the horse-archers for its *alae* and *cohortes sagittariorum* largely from North Africa, Asia Minor and the Near East (e.g. units are attested from Numidia, Commagene in Asia Minor, and Iturea, Palmyra, Syria and Palestine). During Rome's repeated wars against Parthia and later Sassanid Persia, such auxiliary troops played a part in introducing Oriental fashions of clothing into the Roman army, although they were issued items of Roman equipment.

Inset 2: Heavy cavalry *catafractarius*

Both the contending Roman armies at Mursa would have worn the same kinds of equipment, and this mailed heavy cavalryman is mainly reconstructed from paintings in Rome's Via Latina catacombs. The striking copper-alloy helmet with an extended eagle *protome*, able to be worn with a full face mask (absent here), is of the Vechten type. His copper-alloy greaves are of 'splint' construction. *Catafractarii*, unlike the more heavily-protected *clibanarii*, are often represented with a large oval *scutum* shield, which we have given a Christian *Chi-Rho* motif copied from the contemporary silver 'Kerch dish' find. At least one funerary image also shows long barbed spears or javelins.

Inset 3: Heavy cavalry *clibanarius*

In the mêlée, this 'shock' heavy cavalryman of Magnentius's army has lost his primary weapon – a *contus* lance up to *c.*15ft in length – and now tries to hack his way free of surrounding Constantian infantry with the axe sometimes carried slung from the saddle. Some sources show this small, round strapped-on shield, others none being carried at all and the lance being wielded with both hands. A variety of evidence suggests that the armour of Late Roman *clibanarii* might include mail, metal scale, plate (including splint construction, and articulated arcs), and some leather, in a range of differing combinations. Some scholars have contended that their main identifying feature was the horse-armour, which we have here based on the ferrous-scale example from Dura-Europos. His 'ridge' helmet shows gilding, and instead of the more common standing metal 'comb' we have given him the orange plume believed to be associated with cavalry at this date.


River Drava
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Constantinian army
Magnentian army
cemeteries
N

Relief on the pedestal of the Column of Antoninus Pius (completed AD 161) illustrating a *decursio* of aristocratic young riders circling around legionary standard-bearers, harking back to the cavalry origins of Rome's social class of *equites*. (Photo Miguel Hermoso / Wikimedia CC BY-SA 3.0)

contributions. Du Picq (slightly ungenerously, perhaps) notes of Roman Republican cavalry that:

> ...it threw itself at a gallop on the enemy cavalry. When within javelin range, if the enemy's cavalry had not turned in the opposite direction on seeing the Roman cavalry coming, the latter prudently slackened its gait, threw some javelins, and, making an about[-turn] by platoons, took to the rear for the purpose of repeating the charge. (Ardant du Picq 1921: 61)

As allied Italian states increasingly became merged into a Roman identity during the Late Republic, new sources of auxiliary cavalry had to be found. In this Rome followed the example of Carthage, in employing what were effectively mercenaries from European peoples experienced in mounted warfare in a way that the Romans had never quite managed. The transformation of Octavian Caesar from a civil-war warlord into the *princeps* Augustus saw reforms of the army that included systematised state funding of the various arms, and a way to enable provincial recruits from Gaul, Hispania and Illyria (among others) to be able to afford a horse and its equipment.

Detail of the tombstone from Neuss (Germany) of Oclatius, a soldier of the *Ala Afrorum*, depicting his *calo* (slave groom) leading his horse, and carrying on his shoulder what is probably a bundle of javelins. (Photo © M.C. Bishop)

Roman cavalry tactics were inevitably governed by the equipment available. As such, they evolved in a series of steps, most significantly perhaps with the introduction of the four-horned saddle and the adoption of auxiliary troops who used it. This meant Republican cavalrymen who had to halt or even dismount to fight gave way to riders who could perform

Reconstruction by the Ermine Street Guard of a *spatha* of the 'Pompeii' shape (parallel-sided blade with short triangular point) with fine plated decoration on the scabbard furniture, based on a surviving example from Ptuj in Slovenia. Longer than the legionary's *gladius*, this was the typical sword of Early Principate cavalry, giving riders a practical reach when fighting from the saddle – although by the middle of the 2nd century AD it was also being adopted by the infantry. Archaeology suggests a range of blade lengths averaging approximately between 62cm / 24 ins and 81cm / 32 ins. (Photo © M.C. Bishop)

the elaborate evolutions and weapons discharges of the *hippika gymnasia* described by both Arrian and Hadrian. Nevertheless, despite wearing helmets and half-body armour, they were still effectively light cavalry. They primarily used missile weapons and were deployed on the flanks, with the duties of protecting the main body of infantry, and pursuing an enemy who fled after being broken by the legions. However, that emphasis on missile weapons did not mean that hand-to-hand combat was unknown to the cavalry of the Principate. They favoured being depicted using a *hasta* thrusting spear to stab a fallen barbarian, and the long *spatha* sword could be wielded to good effect, giving ample reach from on horseback.

The later adoption of the two-handed lance and heavier body (and horse) armour produced a new type of Roman cavalryman (although far from new to peoples in the Near East and steppe regions). With him there appeared new tactics that exploited the nature of that weaponry and improved protection. The disappearance of the *hippika gymnasia* by the 4th century AD confirms that this specialised form of training (and the tactics it showcased) were no longer thought necessary. Ultimately, the legacy of these Late Roman developments fed into the cavalry of the Byzantine Empire, as described in contemporary military manuals, and led to the marrying of the use of bow and lance by the same riders (Rance 2015b: 999).

It can reasonably be argued that there was no decline, or even 'barbarisation' of Roman cavalry from the Republic to the Dominate. However, there was a readily apparent strand of development driven by both the tactics of the opponents they encountered and the equipment available. Perhaps the last word should belong to the Emperor Hadrian, reviewing (in terms of slightly lukewarm praise) the performance of *Ala I Panniorum* after it had exercised in front of him:

> You carried out everything as per regulations. You filled the training ground with your manoeuvres, you threw your darts with some skill, and although... your spears were short and sturdy, many of you skilfully threw your javelins. You leaped [into the saddle] both nimbly today and swiftly yesterday. If anything had been lacking, I would have noted it; if anything had stood out, I would have pointed it out. Overall, you all performed equally well in the exercise. (Speidel 2006: Field 29, trans author)

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CIL *Corpus Inscriptionum Latinarum*. Available at http://www.manfredclauss.de/ (accessed 21.10.24)

DRM *De Re Militari*, see Vegetius below.

RIB *Roman Inscriptions of Britain*. Available at https://romaninscriptionsofbritain.org/ (accessed 21.10.24)

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INDEX

Figures in **bold** refer to illustrations.

Aemilianus, Scipio 5, 14, **31**
Aemilius Paullus Monument 7, **9**, 10
Agricola, Gn. Julius **C22**, 32, 38–39, 54
Ala Afrorum **8**, 20, **60**
alae ('wings') 10, 22, 24–25, 30, **37**, 39–40, 43, 51, 54–55, **H58**
  milliariae 25, **F46**
Alani, the 24, 30, 40
  campaign **E36**, 40
archaeology 8, **E36**, 50, **61**
Arlon (Belgium) 7, **17**, 32
armour **7**, 15, 17, **C22**, 33, 40, 44, **F46**, 49, **G52**, 54–56, **57**, **H58**
  body 4, 10, **B18**, **26**, **D28**, 31, 42, **F46**, **49**, 57, 61
  horse 42, 49, 54, **55**, 57, **H58**, 61
  mail **4**, **A12**, **B18**, **C22**, 25, **G52**, 56, **H58**
  scale **B18**, **C22**, 25, **26**, **F46**, **G52**, **H58**
Arrianus, L. Flavius 6, 30, **E36**

Balkans 15, 44, 50, **H58**
Batavians 4, 21, **C22**, 33–36, 38
battles:
  Cannae, battle of 16, **54**, 56
  Gelduba, battle of 8, 34, **35**, 36
  Hadrianopolis, battle of 51, **54**, 56
  Mursa, battle of 55, **H58**
  Nepheris, battle of 14, **31**
  Rigodulum, battle of 6, **35**, 38
  Ruspina, battle of **15**, 18
  Ticinus, battle of the **A12**, **14**, 15
bodyguards 21, 28, 34, **E36**, 40
  mounted 22, 33
Britain 8, **16**, **B18**, **C22**, 27, **28**, **30**, 32, 36, 38, 41, **43**, 46

Caesar, Julius 6, 10, **15**, 17–18, 24, 38, 57, 60
Carthaginian empire 11, **A12**, **14**, 16–17, 21
cavalry 4–11, **A12**, **13**, 14, **15**, **16**, **17**, **B18**, **20**, 21, **C22**, 24–27, **D28**, **30**, 32–34, **35**, **E36**, 38–39, **40**, 41–42, **43**, 44, **45**, **F46**, **48**, 49–50, **51**, 52, **54**, 55–57, **H58**, **60**, **61**
  auxiliary/auxiliaries **4**, **5**, 7, **C22**, 25–27, 30–31, 35–36, 38, **39**, 40, 42, 60
  Gallic **A12**, **13**, 14–18, 21
  Iberian **A12**, **13**, 15–16, 18
  Numidian **A12**, **13**, **14**, 16–17, 42, 46
  Thracian 18, 22, 24
  turma 5, 10, 14, **B18**, **C22**, 24, 26, **D28**, 30, **31**, **32**, **34**, 38, 43–44, **F46**, **G52**
  centuriae 22, 24, 44, **G52**
clibanarii ('oven men') 44, 49, 57, **H58**
cohors 8, 24–25, 28, **E36**, **37**, 39, 44–45, **H58**
  cohors equitata 24, 30–31, **E36**, 40–41, 43, 51, **G52**
combat 4, **A12**, 15–16, 30–31, 39, 45, **F46**, 49–51, 54, **56**, 61
Constantius II 50, 54–55, **H58**

Danube, the 28, 33–34, 42, 43–44, 57
De Re Militari 4, 6, 27
decurio 10–11, **B18**, 20, 25, 43, **F46**, **53**, **60**
Dominate, the 44, **50**, **51**, 52, 54, 57, 61
draco standard **42**, **43**, **F46**, **G52**, **53**
draconarious relief/standard-bearer **43**, **F46**, 50
du Picq, Ardant 20, 42, 60
Dura-Europos (Syria) 8, 44, 49, 54, **55**, 57, **H58**

equites (horsemen) 9, 14, **B18**, 22, 24, 27–28, **E36**, 39, 41, 43–44, **51**, 58, **60**
  singulares 11, **21**, 33, **E36**, **37**, 40
Europe 5, **11**, **A12**, 18, 21, 60

Germany 8, 20, **25**, **26**, 27, **30**, 32, 34, 38, **42**, **48**, 54, **57**, **60**

Hadrian, Emperor 7, **B18**, 20, 22, 24–25, 30, 33, 61
Hadrian's Wall 11, 25–26, **41**, 42–43, **46**, 52
Hannibal 12, 14, 21, **54**
helical frieze **5**, 7, 32
helmets **10**, **11**, **A12**, **B18**, **C22**, **25**, **D28**, **30**, 31, **32**, **E36**, 42, **43**, 44, **F46**, **50**, **G52**, **H58**, 61
  Boeotian **10**, 11, **A12**
  ridge **49**, 50, **51**, **H58**
hippika gymnasia 5, **D28**, 30–31, 43–44, 50, 54, **56**, **57**, 61
horsemen 5, 7, **A12**, 14–16, **B18**, 22, 24, 27, **D28**, 35, **E36**, 43–44, **50**, **54**, 55, 57

Iazyges 7, 45, 57
iconography 8, **16**, **D28**, **E36**, 45, 50
infantry 4–6, 9–10, **A12**, **13**, 14–16, 18, 20, 24, 26–27, **D28**, 30–31, **32**, **35**, **E36**, 38–42, 44, **46**, 48, **50**, **G52**, **54**, 55–56, **H58**, **61**
Italy **A12**, 14–16

javelins **4**, 6, 11, **A12**, 14, **16**, **17**, 18, 20, 22, 25, 27, **D28**, 30, **31**, **33**, **E36**, 51, **G52**, **H58**, **60**, 61

Krefeld-Gellep (Germany) 8, 34, **35**, 38

Lambaesis (Algeria) 7, 22, 25, 27
lance, two-handed (*contus*) 4, 20, 42, 44, **48**, **49**, 54, 57, **H58**, 61

Mainz **4**, **21**, **24**, 36, 38
manoeuvres 15, **D28**, 30–31, 48–49, **H58**, 61
  Cantabricus **B18**, 25, 30
McCall, J. B. 6, 8, 10, 12, 14–15

Netherlands 27, 41–42, **51**, **57**
Neuss (Germany) 20, 27, 36, **60**
Newstead (Scottish Borders) **26**, **27**, **41**, **45**, **56**
North Africa 5, 7, 18, 20, 24, 42, **H58**
Numidians, the 4, **A12**, **13**, **14**, 16–17, 30, 42, 46, **H58**

Petitjean 14, 24, 30, 43, 51
Pliny Elder 6, 20, 27, **40**
Polybios 5–6, 10, 12, 14, 16–17
praefectus 25, **F46**, **53**, 54
Principate, the 7, 10–11, 14–15, 18, 20, 26, 43–44, **F46**, 49, 57, 61
  Early 6, **10**, 12, **B18**, 21, 25, 27, **D28**, 30–32, 34, **39**, 42–44, 50, 55, **61**
  High 42–43
  Late 42–43, 50
Punic Wars 11, 58
  Second 11, **A12**, 14–15
  Third 11, 14, 17

rearguard 27, 40, **H58**
Renatus, Flavius Vegetius 4–6, 27, 30, 33, 43, 45, 50, 54, 57–58
Republic, the 9–10, 16, 20–21, 27, 50, 60–61
Republican period, the 6, 9–12, 41–43, 46, 54
  cavalry 8, **9**, **10**, 11, 14, 41, 60–61
Rhineland 4, **21**, **D28**, 49
Roman army 4–5, 7–11, **15**, 16–17, 21, 24, 27, 30, **E36**, 38, 40, 42, **F46**, **48**, 49, 51–52, **54**, 55–56, **H58**, **59**, 60
Rome 4–5, 7, 9, 11, 17, 32, 34, 49–50, 55, **H58**, **60**

saddles **8**, **11**, **A12**, 14–15, **20**, **21**, **C22**, **24**, **E36**, **39**, **40**, **41**, 42, **F46**, 50–51, **G52**, 57, **H58**, 60, **61**
  saddle-horns **20**, **C22**, 33, **41**, 57
Sarmatians **7**, **43**, 44, **F46**, 57
Sassanid Persians 43, 49, **50**, 57, **H58**
Scipio, Publius **A12**, 15–16
scouts **15**, 18, **E36**, 40
shields **8**, **10**, 11, **A12**, **B18**, **20**, **C22**, 25, **D28**, 30, **32**, **34**, **E36**, **44**, **F46**, **48**, **50**, 51, **G52**, 55, **H58**
  parma 11, 15
signifer **B18**, **C22**, **F46**
skirmishing 10, 14, 26, 30, 41, 58
slaves 11
  calo **4**, 11, **24**, **60**
  rebellion 17
spears **10**, 11, **A12**, **17**, **B18**, **20**, **D28**, **50**, 51, **H58**
  hasta **10**, 15, **16**, 20, 31, 49, 61
straps **6**, **A12**, **30**, 33, **40**, 57, **H58**
  pteryges **10**, **E36**, **F46**
Strategikon 6, 49, 51–52
swords **9**, 11, **A12**, 20, 25, 27, **30**, 31, 45, **50**, 55, **61**
  spatha **4**, **B18**, **G52**, 61

tactics 4–5, 7–8, 10–11, 17, 24, 26–27, 29–31, 33, 37, 42–45, 48, 50–51, 54–57, 60–61
Technē taktikē 15, **D28**, 30, **F46**
tombstones **4**, 7, **8**, 11, 20, **21**, 22, **24**, 25, 27, **D28**, **30**, 32, 42, **45**, **48**, **49**, 54, **60**
training 5, 7, **8**, 15, 24–25, **D28**, 43, 50, 61
Trajan's Column **5**, **7**, **14**, 32, 42, 45, 57
Turkey 17, 30, **E36**, 46, 48, 57

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Dedication

For Jonathan Charles Nelson Coulston (1957–2024)

A steely-eyed Column man

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